



LACUS FORUM XL

VIEWPOINTS



LACUS FORUM

Journal of the Linguistic Association of Canada and the United States

Editors of Volume XL

Renison J. Gonsalves
Brooklyn College
2900 Bedford Avenue
Brooklyn, NY 11210, U.S.A.

William Sullivan
Maria Curie-Skłodowska University
Pl. M. Curie-Skłodowskiej 5 20-031
Lublin, Poland

Douglas W. Coleman, Webmaster
University of Toledo
3638 Shamrock Drive, Toledo, OH 43615, U.S.A.

Reviewers of Volume XL

Barbara Bacz
Lara Burazer
Lucas van Buuren
Douglas W. Coleman
Michael Cummings
Mark Davies
Connie Eble
Sheila Embleton

Adolfo García
Renison Gonsalves
ShinJa Hwang
Henryk Kardela
Sydney M. Lamb
Chao Li
Deryle Lonsdale
Daniel S. Mailman

Alan K. Melby
Jacqueline Nenchin
Robert Orr
H. Stephen Straight
William J. Sullivan
Sarah Tsiang
Jessica de Villiers
Alexandria Wolochuk

LACUS Forum is published by the Linguistic Association of Canada and the United States.

Copyright © LACUS, 2020. All rights reserved.

Printed in U.S.A.

ISSN 0195-377x

LACUS FORUM

Journal of the Linguistic
Association of Canada and the
United States

VOLUME 40

NUMBER 1, 2020

CONTENTS

PREFACE iii



1. *Winner of the 2013 Presidents' Prize*
FUNCTIONAL ORGANIZATION OF TRANSLATION ROUTES IN
THE BILINGUAL BRAIN 1
Adolfo Martín García
2. I-BORROWINGS AND BRAND NAMES IN POLISH: 13
THE CASE OF IPHONES, SMARTPHONES AND TABLETS
Grażyna Drzazga
3. THE MODERN HEBREW ROOT AS A COGNITIVE CATEGORY 21
Ignacio L. Montoya
4. A MEANING HYPOTHESIS FOR *ANY* AND *SOME* 32
Nadav Sabar
5. MORPHOSYNTACTIC CHANGE AND STABILITY 40
IN FRANCO-AMERICAN FRENCH
Louis Stelling

PREFACE

THIS VOLUME CONTAINS SELECTED papers presented at the Fortieth LACUS Forum, held July 29-August 1, 2013, at Brooklyn College in Brooklyn, New York. As is often the case at LACUS conferences, there was a large variety of presentations, representing a wide range of topics and theoretical frameworks. The conference theme of “Viewpoints” with a special focus on multilingualism was itself broad and encouraged different approaches to the study of language, which are reflected in the papers included here.

This LACUS Forum was more than just a chronological milestone of LACUS attaining the ripe age of 40. It was the first time that LACUS had met in New York City, and the organizing committee took advantage of the venue to invite a number of local linguists to participate in the conference. Bob Vago of Queens College gave a keynote address on “Stratal Optimality Theory: A Case Study of Hungarian Inflections.” Two linguists in the Ph.D. Program in Linguistics at the City University of New York Graduate Center, Ignacio Montoya (“The Hebrew Root as a Cognitive Category”) and Nadav Sabar (“Meaning Hypothesis for the Morphemes *any* and *some*”), presented papers that are included here. Members of the Brooklyn College undergraduate Linguistics Program (Isabelle Barrière, Rennie Gonsalves, Jonathan Nissenbaum, and Mark Patkowski) presented a panel discussion on “How to Build an Undergraduate Program in Linguistics,” at which the panel members and a fair number of conference participants discussed strategies that have worked well on their own campuses.

Lilly Chen delivered the presidential address, “Assessment of Dialect Difference: Visceral vs. Cerebral Aspects.” This presentation, in keeping with the conference focus on multilingualism, discussed reactions to Taiwanese Mandarin among mainland Chinese. Two invited guests from Poland, Leszek Berezowski of Wroclaw University (“How to View Things with the Indefinite Article”) and Henryk Kardela of the Maria Curie-Skłodowska University (“Karl Bühler’s Semiotic Legacy: Viewpoint in Focus”), gave stimulating plenary presentations, included here, and were valuable respondents in many of the sessions throughout the conference. Sydney Lamb (Rice University), a founding member of LACUS, presented a paper (“Toward a Neurological Account of Word-Priming Effects on Behavior”) which showed how his theory concerning the neurological pathways of language helps to explain the often amazing effects that words have on human behavior.

The articles in this volume were selected after an extensive peer-review process. After the initial review of abstracts, those that were chosen were further edited for inclusion in the conference program handbook. Each presentation at the conference was accompanied by a question-and-answer period when points that could be of assistance to presenters were raised and discussed. The presentation and discussion process often leads to significant additions and changes to the submitted papers. Only papers actually presented at the conference are included in this volume. Each paper was reviewed by multiple reviewers and then carefully copyedited and formatted according to a style guide followed by all the authors.

The international character of LACUS was very much in evidence at this the Fortieth LACUS Forum. Apart from Canada and the USA, countries represented at the conference included Argentina, Brazil, China, Hungary, Israel, Italy, Japan, Mexico, the Netherlands, Nigeria, Poland, Russia, South Korea, Taiwan, and Turkey. Several virtual presentations were skyped in from distant places, including Belarus, Córdoba, and Jerusalem. In addition, at least fifteen languages and five dialects of French are the subject matter of the articles in this publication.

LACUS Forty continued the LACUS tradition, begun by Kenneth Pike, of awarding prizes at

the pre-doctoral and post-doctoral levels to two young scholars. The winning paper for the Presidents' Post-Doctoral Prize was "Functional Organization of Translation Routes in the Bilingual Brain" by Adolfo Garcia (Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), and Universidad Nacional de Córdoba (UNC), Argentina). The winning paper for the Presidents' Pre-doctoral prize was "I-borrowings: The case of iPhones, smartphones and tablets in Polish," by Grażyna Drzazga (McMaster University, Ontario, Canada). Both papers are included in this volume.

The editors would like to thank the following individuals: Doug Coleman (Program Director) for organizing the review of abstracts and putting together and managing our program of presentations and events, including our skyped-in virtual program of several presentations; Sheila Embleton (Chair of the Board of Directors), Lilly Chen (President), Stephen Straight (Vice-President), and the rest of the Board of Directors for their invaluable advice and assistance in helping to organize the conference and assisting in the day-to-day running of the conference; various individuals at Brooklyn College for their support and encouragement, including especially Provost Tramontano, Associate Provost for Faculty Jerry Mirotznik, English Department Chair Ellen Tremper, and Rennie's colleagues in the Linguistics Program Isabelle Barrière, Jonathan Nissenbaum, and Mark Patkowski; numerous members of the staff at Brooklyn College for helping to put together the logistics for the functioning of the conference, including everything from the venue to the food; Jerry Krase for his fascinating guided bus tour of Brooklyn; Rennie's students in the Linguistics Program for helping to man the registration desk throughout the conference; and various members of LACUS, including Rennie's wife, Marcia, for all their advice and tireless help and support.

We hope that the interested linguistics-oriented reader of this volume will find the articles included here useful and informative, and that these papers will serve to further stimulate and nurture an open-minded view of the vastness of language and the enormous possibilities available for study in the field of linguistics.

Daniel Mailman, Bill Sullivan, & Rennie Gonsalves



FUNCTIONAL ORGANIZATION OF TRANSLATION ROUTES IN THE BILINGUAL BRAIN

ADOLFO MARTÍN GARCÍA

*Institute of Cognitive and Translational Neuroscience, Argentina
National Scientific and Technical Research Council (CONICET), Argentina
National University of Cuyo (UNCuyo), Argentina*

Abstract: This paper examines the functional organization of translation routes in the bilingual brain. Three hypotheses taken from the Revised Hierarchical Model (Kroll & Stewart 1994) give rise to relevant neurocognitive predictions. These are tested through an exploration of functional dissociations within and between brain-lesioned bilinguals exhibiting different translation neuro-pathologies—namely, translation without comprehension, inability to translate, and paradoxical translation behavior. The evidence suggests that there are neuro-functionally independent routes for translation, as opposed to monolingual speech production; backward translation, as opposed to forward translation; and form-based translation, as opposed to conceptually mediated translation. The observed dissociations are illustrated in terms of relational-network notation.

Key words: bilingualism, translation neuro-pathologies, double dissociations.

BILINGUALISM—OR, MORE GENERALLY, MULTILINGUALISM—gives rise to varied linguistic phenomena which only rarely occur in monolinguals. Knowledge of at least two languages is necessary to engage in language mixing, language switching, and translation in any of its modalities. The latter skill, in particular, implies a number of distinguishing features: (a) interaction with one or more interlocutors who are competent in language A but not B, and others who are competent in language B but not A; (b) recognition, parsing, and comprehension of the input must take place only in the source language (SL), through inhibition of competing representations in the other language; (c) production of the output must take place only in the target language (TL), through inhibition of competing representations in the other language; and (d) code-mixing, except in specific cases, must be deliberately prevented (García 2012; see also Seleskovitch 1978; Chernov 1994; Green 1998).

This complex skill has become an object of inquiry for several disciplines, including not only translation studies (Hurtado Albir 2001; Munday 2001) and interpreting studies (Pöchhacker 2004), but also linguistics in its various guises. Indeed, models of translation have been constructed from the vantage point of structural linguistics (Jakobson 2000 [1959]), functional linguistics (House 1977), pragmatics (Gutt 1991), and psycholinguistics (Kroll & Stewart 1994; Dijkstra & van Heuven 2002). This comes as no surprise, given that translation research may have far-

reaching implications for understanding language at large. As Bell (1991: xvi) argues, the study of translation may function “as a vehicle for testing [linguistic] theory and for investigating language use.”

More recently, translation has also entered the agenda of another thriving subfield of linguistics, namely, neurolinguistics. Since the mid-90s, a number of studies have measured brain activity during interlingual reformulation through varied techniques, such as EEG, ERP, fMRI, fNIRcws, PET, and direct electrostimulation (for a review, see García 2013). Furthermore, neuroscientific evidence obtained via non-translation tasks has been used to theorize about translation processes (Moser-Mercer 2010; Diamond & Shreve 2010; Tymoczko 2012).

However, explorations of the neural basis of translation have mostly neglected relevant *clinical* evidence—in particular, reports of translation disorders in brain-lesioned bilinguals. The functional selectivity of impairments due to brain damage yields valuable information about the internal organization of specific cognitive systems (García in press). In the words of Damasio (2003: 5),

[t]he cruelty of neurological disease may be a bottomless pit for its victims [...] But the scalpel of disease also is responsible for its single redeeming feature: By teasing apart the normal operations of the human brain, often with uncanny precision, neurological disease provides a unique entry into the fortified citadel of the human brain and mind.

Clinical evidence, afforded by the “uncannily precise scalpel of disease,” has inspired influential theories in cognitive neuroscience, including models of language (Ullman 2001; Paradis 2004), memory (Squire 2008), conceptual knowledge (Capitani *et al.* 2003), and even emotional processing (Damasio 2003). This paper seeks to apply the clinical approach to examine the functional organization of translation subsystems in the bilingual brain, through a review of relevant case reports of brain-lesioned bilinguals. The method of choice consists in the establishment of double dissociations, that is, empirical observations in which damage to area A impairs function X but not function Y, whereas damage to area B compromises function Y but not function X. Such patterns suggest that functions X and Y are mutually autonomous—i.e., their functionality does not depend on the integrity of the other—and that they are sub-served by separate neural routes.

1. HYPOTHESES AND PREDICTIONS. The most popular model of the organization of the linguistic routes involved in translation is the Revised Hierarchical Model (RHM) (Kroll & Stewart 1994).¹ Note that this is a strictly psycholinguistic model, which does not make any commitment to the neurological reality of its postulates. The RHM posits the existence of two language-specific lexical stores and a shared conceptual store. Translation equivalents between the native language (L1) and the foreign language (L2) are thus claimed to be represented in separate systems, although they map onto common concept nodes. The model further proposes that there are separate, asymmetric links between equivalents for the L2-L1 direction (backward translation, henceforth BT) and the L1-L2 direction (forward translation, henceforth FT). Translation can be accomplished through both a lexical and a conceptual route. At low levels of proficiency, the lexical route is proposed to predominate in BT, whereas FT would be conceptually mediated. However, as proficiency increases, the role of the conceptual route becomes more important for

¹ In a fifteen-year period, the paper where the RHM was first proposed accumulated over 300 citations in articles indexed by the Web of Science (Kroll *et al.*, 2010), which attests to its prominence in the literature.

both directions. The RHM is depicted in **Figure 1**.

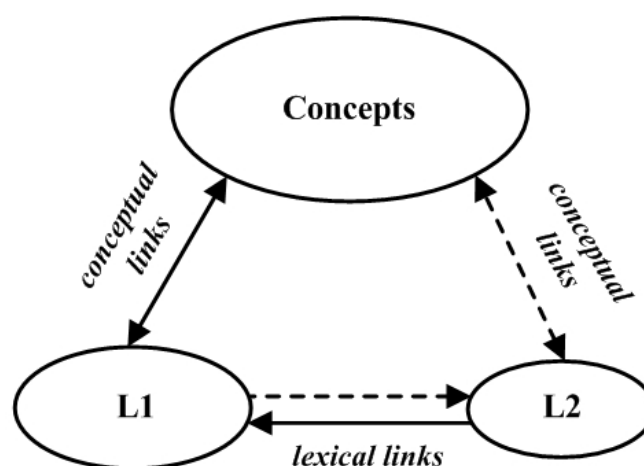


Figure 1. The RHM (Kroll & Stewart 1994). Solid lines: stronger connections. Dashed lines: weaker connections.

As regards the functional organization of translation routes, the model comprises three hypotheses which may be interpreted as empirical predictions regarding the *neural* organization of the routes in question. These are listed in **Table 1**.

NUMBER	POSTULATE	NEUROCOGNITIVE PREDICTION
1	Translation can be achieved via a lexical route, consisting of direct connections between L1 and L2 word forms; or through a conceptual route, involving semantic mediation.	The existence of a lexical route would be supported by cases in which translation can be performed although the neurological insult impedes conceptual activations during the task.
2	The routes allowing for translation at the lexical level are separate from those involved in spontaneous production in either L1 or L2.	Subsequent to neurological lesions, lexical translation skills may be preserved while spontaneous production skills in either language are impaired, and vice versa.
3	The routes supporting BT and FT are separate and functionally independent.	Subsequent to neurological lesions, either BT or FT may be exclusively impaired or more significantly impaired relative to the opposite direction.

Table 1. Hypotheses derived from the RHM and associated neurocognitive predictions.

The above hypotheses and predictions can be tested by analyzing case reports of brain-lesioned

bilinguals presenting translation-related pathologies. A selective review of such reports is offered below.

2. CLINICAL EVIDENCE. Clinical reports of brain-lesioned—mainly aphasic—bilinguals have revealed the existence of several translation neuropathologies, that is, selective disorders of translation-specific processes resulting from cerebral damage. Three of those pathologies provide critical evidence to test the hypotheses and predictions presented above. The present review considers data gleaned from fourteen different cases.² Each pathology is first defined, then exemplified by reference to a paradigmatic case, and finally characterized in terms of its functional profile.

2.1. TRANSLATION WITHOUT COMPREHENSION. Patients diagnosed with *translation without comprehension* are able to translate words or utterances correctly and unhesitatingly although they are unaware of the meaning of the SL expressions. Signs of translation without comprehension have been reported in three cases. The first one was documented by Veyrac (1931). The other two were described by Paradis *et al.* (1982).

The most emblematic case, reported on by Paradis *et al.* (1982), is that of a Canadian French-English bilingual who underwent surgery for removal of a venous malformation deep in his left temporo-parietal region. Until the edema disappeared, he showed a pattern of alternating antagonism. On a day in which his French was considerably more fluent than his English, he was asked to translate words such as *plafond*, *porte*, *fenêtre*, and *table*. The patient quickly and accurately provided the required English equivalents, but was unable to identify and point to those objects in the room. Although the patient stated that he knew the objects existed in his surroundings, he could not recognize them. In some cases, after providing the correct translation, he would point to wrong objects, such as the sink instead of the window, or the bed instead of the table. This behavior suggests that his perceptual and conceptual representations of the objects in question were not active during translation.

This pathology, which seems to occur as a consequence of lesions to left temporal and temporo-parietal regions, indicates that interlingual reformulation is possible in the absence of semantic activations. In other words, it suggests that translation is possible even when the neural substrates supporting conceptual processing are inhibited or destroyed during lexical retrieval.

2.2. INABILITY TO TRANSLATE. The disorder known as *inability to translate* consists in a severe or complete incapacity to voluntarily translate utterances in either one or both directions. An illustrative case is that of E.M., first described by Aglioti & Fabbro (1993). The patient was a 70-year-old unbalanced bilingual who spoke Venetian (L1) and Italian (L2). As a result of a stroke, E.M. presented an ischemic lesion to the putamen and the caudate nucleus of her left hemisphere. She lost her ability for verbal production in L1, but her L2 remained functional. Comprehension was well preserved in both languages. E.M. performed three translation tasks, all of which revealed a dissociation between FT and BT. As reflected by the scores she obtained in such tasks (**Table 2**), her ability to engage in FT was relatively well preserved, whereas her BT skills were severely impaired.

In a follow-up study conducted five years later (Aglioti *et al.* 1996), E.M. was administered a new word translation task in both directions. Her pattern of translation dysfunctions remained similar (FT: 23/35 = 65.7%; BT: 11/28 = 39.2%).

² For a more detailed discussion of these and additional case reports, see García (2012).

TRANSLATION DIRECTION	SINGLE WORDS (ORAL MODE)		SINGLE WORDS (WRITTEN MODE)		SENTENCES (ORAL MODE)	
	Correct answers	Mean scores	Correct answers	Mean scores	Correct answers	Mean scores
FT	52/75	69.3%	19/20	95%	54/75	72%
BT	31/75	41.3%	1/20	5%	26/75	34.6%

Table 2. Translation performance of patient E.M. on her first study. Data obtained from Aglioti & Fabbro (1993: 1361) and Aglioti et al. (1996: 1557).

A joint analysis of the above case and those of nine other patients evincing an inability to translate (Gastaldi 1951; Perecman 1984; Byng *et al.* 1984; Nilipour & Ashayeri 1989; Fabbro & Paradis 1995; Eviatar *et al.* 1999; Weekes & Raman 2008) reveals that a single lesion may result in a selective inability to translate in either backward or forward direction. Also, such impairments may occur even when SL comprehension skills are completely spared. Additionally, the patterns of dysfunction evinced by specific patients suggest that frontobasal lesions impair BT more than FT, and that the directional selectivity of this pathology may be modulated by the translation modality (oral vs. written translation) and by the translation unit (words vs. sentences).

2.3. PARADOXICAL TRANSLATION BEHAVIOR. *Paradoxical translation behavior* is a rare pathology in which patients are capable of translating into a language unavailable for spontaneous production (e.g., L1), but incapable of translating into a language which is available for spontaneous production (e.g., L2). Only three cases have been documented so far. The one affording the clearest patterns of dissociation is that of A.D. (Paradis *et al.* 1982).

Patient A.D. was a 48-year-old nun who spoke French (L1) and Arabic (L2). She was hit by a car and suffered a left temporo-occipito-parietal contusion. Following a period of global aphasia, she exhibited signs of alternating antagonism, meaning that her two languages would become concurrently available and unavailable throughout her recovery. For over a month, during the days when her L1 was unavailable for spontaneous production while her L2 was available for voluntary speech, she was able to translate into L1 but unable to translate into L2. When spontaneous speech was possible in L1 but not in L2, only translation into L2 was possible. For example, in a first evaluation, her ability to spontaneously describe a picture in L1 was completely impaired. However, her BT skills were virtually intact when administered single words (12/12) and sentences (6/6, with minor replacements of definite by indefinite articles). The following day, when her production skills improved in L1 and became worse in L2, she could translate only 2 out of the 6 Arabic sentences she had translated correctly the day before.

The above case of paradoxical translation behavior, alongside the other two that have been documented to date (Paradis *et al.* 1982; De Vreese *et al.* 1988), gives rise to two empirical observations. First, the ability to engage in BT does not depend on the functional integrity of the routes supporting speech production in L1. Likewise, the ability to engage in FT does not depend on the functional integrity of the routes supporting speech production in L2. Second, BT is possible when FT is impossible or severely impaired, and vice versa—this seems to be true of both word and sentence translation.

3. INTERPRETING AND VISUALIZING THE DATA. The dissociations described above provide relevant data to test the predictions listed in **Table 1**. Also, the use of relational network notation (Lamb

The first hypothesis posits that translation can be performed through either a lexical route (which may bypass the semantic system) or a conceptually-mediated route (involving semantic activations). Evidence for a dissociation between these routes comes from the cases of translation without comprehension. A neurocognitive interpretation of this pathology indicates that, subsequent to brain injury, bilinguals may accurately and unhesitatingly find TL equivalents for SL expressions even when the conceptual representations associated with the latter have not been activated. In the case of the Canadian patient studied by Paradis *et al.* (1982), it must be noted that some of his sentence translations were done word by word, in a process which may have been subserved by the lexical route.

Figure 2. Schematic representation of the dissociation between the conceptual route and the lexical route (red X indicates inhibited or destroyed connection).

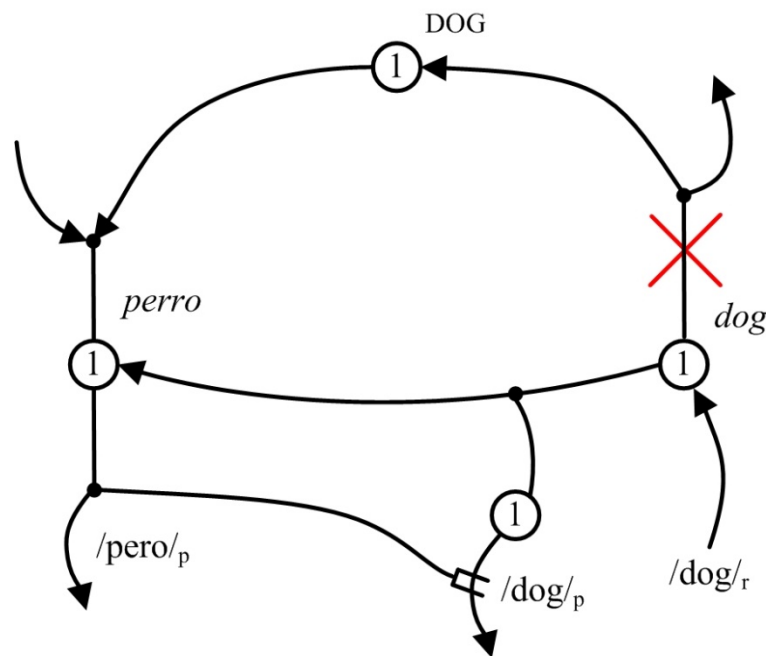


Figure 2. Schematic representation of the dissociation between the conceptual route and the lexical route (red X indicates inhibited or destroyed connection).

Figure 2 offers a simplified representation of the connections supporting BT of the word *dog*. Recognition of the phonological sequence /dog/_r leads to activation of the lexical representation *dog*; however, its corresponding semantic representation is not ignited, given that the relevant connection has been inhibited or destroyed as a result of brain damage. The ensuing production of the form *perro* must then rely on a direct lexical connection. The additional connections included in the figure represent the links involved in the inhibition of the L2 phonological form /dog/_p and the activation of the L1 phonological representation /pero/_p.

The second hypothesis is that the neural routes supporting translation at the lexical level are functionally independent from those involved in speech production in L1 or L2. Supporting evidence comes from the establishment of double dissociations between pathologies impairing translation but not monolingual production, and those resulting in the opposite pattern. The cases of paradoxical translation behavior and inability to translate are consistent with the hypothesis. These pathologies show that the routes supporting BT can remain functional when those involved in L1 production are relatively or completely impaired, and vice versa; and that the routes supporting FT can remain functional when those involved in L2 production are relatively or completely impaired, and vice versa.

Such dissociations are illustrated in **Figure 3**.

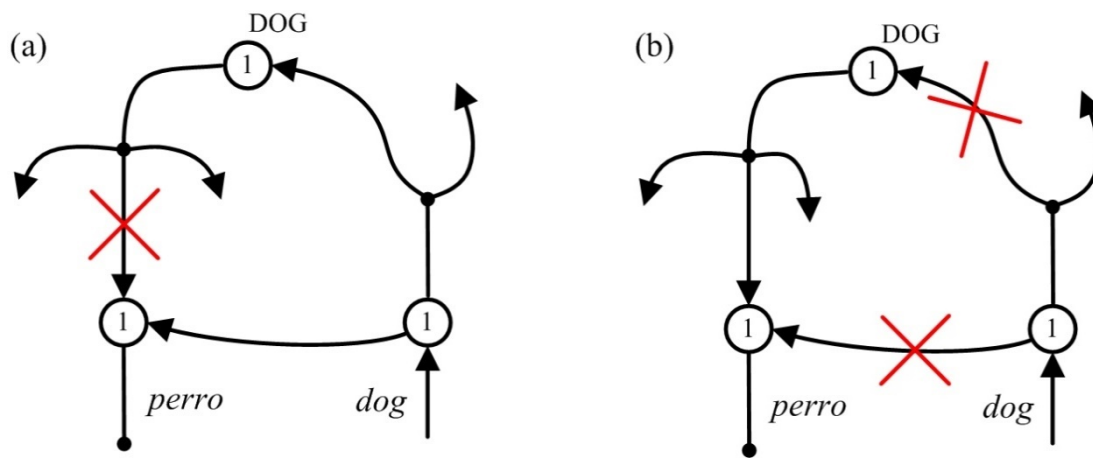


Figure 3. Schematic representation of the dissociation between the translation routes and the monolingual production routes (red Xs indicate inhibited or destroyed connections).

Further supporting evidence comes from an electrostimulation study conducted by Borius *et al.* (2012), who showed that inhibition of specific cortical sites in the bilingual brain can result in an inability to engage in L1 or L2 production without impairing translation processes. In the light of this finding, the authors concluded that “the process of translation must use neurocognitive pathways spatially distinct from these sites which have been identified as involved in reading or naming” (Borius *et al.*, 2012: 620). This would imply that at least some of the connections implicated in translation are separate from those involved in monolingual tasks in L1 and L2, so that they could be independently strengthened or weakened—depending on how often the subject engages in translation, as opposed to monolingual tasks.

Finally, the third hypothesis postulates that the route allowing for BT at the lexical level is functionally independent from the one supporting FT. Once again, this conjecture finds support in the cases of inability to translate and paradoxical translation behavior, which show that the neural networks responsible for FT can remain functional when those supporting BT are partially or temporarily inhibited, or completely destroyed, and vice versa.

A schematic representation of these dissociations is offered in **Figure 4**.

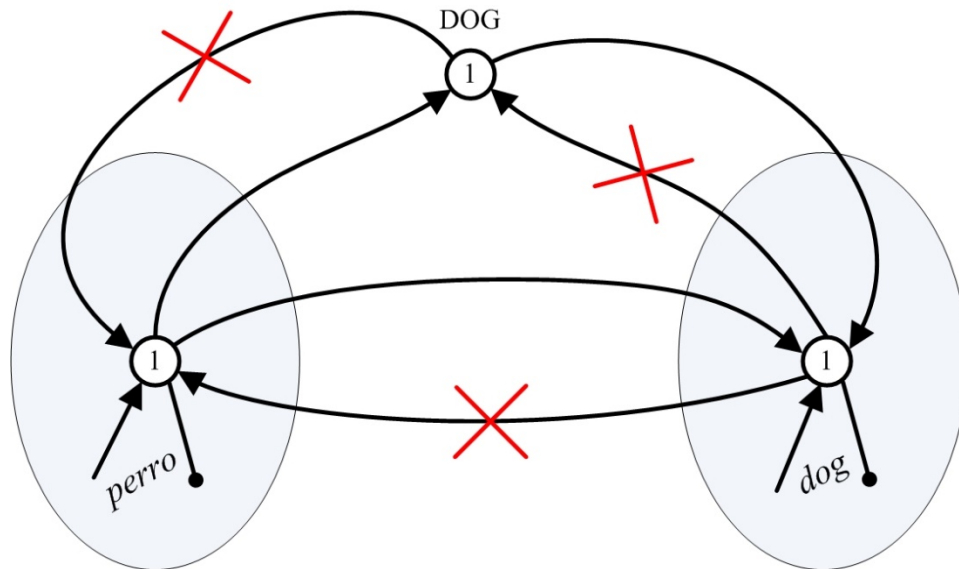


Figure 4. Schematic representation of the dissociation between the routes supporting BT and FT (red Xs indicate inhibited or destroyed connections).

A number of neuroimaging and neurophysiological studies provide additional confirmatory evidence for this hypothesis. In a word translation task, Klein *et al.* (1995) showed that the left putamen was active during FT but not during BT. Quaresima *et al.*'s (2002) fMRI study on sentence translation revealed differential activation patterns for each direction in sites adjacent to Broca's area. Wider activation patterns for FT relative to BT were also shown by Kurz (1995) and Rinne *et al.* (2000). These results, too, indicate that there are specific neural circuits which participate in one translation direction only.

In this sense, the cases presented by Fabbro & Paradis (1995) suggest that the basal ganglia are more crucial for BT than FT, irrespective of the translation unit. The four patients described in that paper had sustained lesions circumscribed to such subcortical structures. The global results of their performance in translation tasks show that they were considerably more impaired in BT than in FT, both for word and sentence translation (**Table 3**).

TRANSLATION DIRECTION	SINGLE WORDS (ORAL MODE)		SENTENCES (ORAL MODE)	
	Correct answers	Mean score	Correct answers	Mean score
FT	76/105	72.3%	58/93	62.3%
BT	52/105	49.5%	29/93	31.1%
Total scores collapsing both directions	128/210	60.9%	87/186	46.7%

Table 3. Global performance of patients E.M., C.B., El.M., and O.R. (all with basal ganglia lesions) on BT and FT tasks. Data obtained from Fabbro & Paradis (1995).

4. CONCLUSION. In a recent paper, Tymoczko (2012: 98) affirmed that “neuroscience [...] is an area that should be tracked in the field of translation studies as a whole, if only because the neuroscience of translation is one of the most important known unknowns of the discipline.” Translation scholars have begun to address this issue through integrative analyses of neuroimaging evidence obtained through both translation tasks (García 2013) and paradigms tapping translation-related processes (Moser-Mercer 2010; Diamond & Shreve 2010; Tymoczko 2012). However, heretofore almost no attention has been paid to relevant clinical evidence.

The present review of case reports of brain-lesioned bilinguals supports a neurocognitive model of translation routes whose architecture is consistent with that of the RHM. Specifically, the evidence suggests that there are neurofunctionally independent routes for translation, as opposed to monolingual speech production; backward, as opposed to forward, translation; and form-based, as opposed to conceptually mediated, translation.

While inconclusive by themselves, the data presently surveyed converge with those afforded by psycholinguistic (Kroll & Stewart 1994; Kroll *et al.* 2010) and neuroimaging (García 2013) experiments. In this sense, the contributions of clinical evidence for neurocognitive modeling cannot be overstated. As Fabbro & Gran (1997: 14-15) argue, “models hypothesizing subsystems [...] are not a product of the fervent imagination of scholars in the field, but rather the interpretation of real phenomena observed in neurological patients showing so-called ‘dissociations’ and ‘double dissociations.’”

Additional evidence to test the present hypotheses could be produced by conducting behavioral or neurophysiological studies, with both neurological patients and healthy subjects, in which monolingual production tasks engaging the conceptual and lexical systems in L1 or L2—e.g., picture naming, spontaneous speech tasks—are compared with translation tasks in both directions. Such studies could provide critical statistical data to determine whether the dissociations posited in this paper are indeed significant. Moreover, the use of high-resolution imaging techniques, such as functional magnetic resonance adaptation (fMRA) (Chee 2009), could provide crucial data regarding the existence of neuronal networks differentially devoted to translation processes, as opposed to monolingual production processes; or to BT, as opposed to FT.

Be that as it may, clinical evidence should be given a key role in the exploration of the neurocognitive basis of translation. Admittedly, the “scalpel of disease” is not enough, on its own, to provide definite answers to all pertinent questions. However, it constitutes a very useful tool to dissect the functional components—systems, modules, routes—supporting this crucial aspect of bilingualism.

ACKNOWLEDGMENTS. This work was partially supported by grants from CONICET and the INECO Foundation.

REFERENCES

- AGLIOTI, SALVATORE & FRANCO FABBRO. 1993. Paradoxical selective recovery in a bilingual aphasic following subcortical lesions. *NeuroReport* 4: 1359-62.
- AGLIOTI, SALVATORE, ALBERTO BELTRAMELLO, FLAVIA GIRARDI & FRANCO FABBRO. 1996. Neurolinguistic and follow-up study of an unusual pattern of recovery from bilingual subcortical aphasia. *Brain* 119: 1551-64.
- BELL, ROGER. 1991. *Translation and Translating*. London: Longman.
- BORIUS, PIERRE-YVES, CARLO GIUSSANI, LOUISA DRAPER & FRANCK-EMMANUEL ROUX. 2012. Sentence translation in proficient bilinguals: A direct electrostimulation brain mapping. *Cortex* 48 : 614-22.
- BYNG, SALLY, MAX COLTHEART, JACQUELINE MASTERSON, MARGOT PRIOR & JANE RIDDOCH. 1984. Bilingual biscriptal deep dyslexia. *The Quarterly Journal of Experimental Psychology* 36(3) : 417-33.
- CAPITANI, ERMINIO, MARCELLA LAIACONA, BARDFORD MAHON *et al.* 2003. What are the facts of semantic category-specific deficits? A critical review of the clinical evidence. *Cognitive Neuropsychology* 20(3/4/5/6) : 213-61.
- CHEE, MICHAEL. 2009. fMR-Adaptation and the bilingual brain. *Brain and Language* 109(2-3): 75-79.
- CHERNOV, GHELLY V. 1994. Message redundancy and message anticipation in simultaneous interpretation. In *Bridging the Gap: Empirical Research in Simultaneous Interpretation*, edited by Sylvie Lambert & Barbara Moser-Mercer, 139-53. Amsterdam: John Benjamins.
- DAMASIO, ANTONIO. 2003. *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*. London: William Heinemann.
- DE VREESE, LUC P., MASSIMO MOTTA, & ANDREA TOSCHI. 1988. Compulsive and paradoxical translation behaviour in a case of presenile dementia of the Alzheimer type. *Journal of Neurolinguistics* 3(2) : 233-59.
- DIAMOND, BRUCE, & GREGORY SHREVE. 2010. Neural and physiological correlates of translation and interpreting in the bilingual brain: Recent perspectives. In *Translation and Cognition*, edited by Gregory Shreve & Erik Angelone, 289-322. Amsterdam & Philadelphia: John Benjamins.
- DIJKSTRA, TON, & WALTER J. B. VAN HEUVEN. 2002. The architecture of the bilingual word recognition system: From identification to decision. *Bilingualism: Language and Cognition* 5 : 175-97.
- EVIATAR, ZOHAR, MARK LEIKIN, & RAPHIQ IBRAHIM. 1999. Phonological processing of second language phonemes: A selective deficit in a bilingual aphasic. *Language Learning* 49(1): 121-41.
- FABBRO, FRANCO, & MICHEL PARADIS. 1995. Differential impairments in four multilingual patients with subcortical lesions. In *Aspects of Bilingual Aphasia*, edited by Michel Paradis, 139-76. Oxford: Pergamon.
- FABBRO, FRANCO, & LAURA GRAN. 1997. Neurolinguistic research in simultaneous interpretation. In *Conference Interpreting: Current Trends in Research. Proceedings of the International Conference on Interpreting: What Do We Know and How?*, edited by Yves Gambier, Daniel Gile & Christopher Taylor, 9-27. Amsterdam & Philadelphia: John

- Benjamins.
- GARCÍA, ADOLFO M. 2012. *Traductología y neurocognición: Cómo se organiza el sistema lingüístico del traductor*. Córdoba: Editorial de la Facultad de Lenguas de la Universidad Nacional de Córdoba.
- . 2013. Brain activity during translation: A review of the neuroimaging evidence as testing ground for clinically-based hypotheses. *Journal of Neurolinguistics* 26(3) : 370-83.
- . In press. Aphasiology and cognitive linguistics: What double dissociations reveal about the mental organization of language. *LACUS Forum* 39.
- GASTALDI, GUIDO. 1951. Osservazioni su un afasico bilingüe. *Sistema Nervoso* 2, 175-80.
- GREEN, DAVID W. 1998. Mental control of the bilingual lexico-semantic system. *Bilingualism: Language & Cognition* 1: 67-81.
- GUTT, ERNST-AUGUST. 1991. *Translation and Relevance: Cognition and Context*. Oxford: Blackwell.
- HOUSE, JULIANE. 1977. *A Model for Translation Quality Assessment*. Tübingen: Gunter Narr.
- HURTADO ALBIR, AMPARO. 2001. *Traducción y Traductología: Introducción a la Traductología*. Madrid: Cátedra.
- JAKOBSON, ROMAN. 2000 [1959]. On linguistic aspects of translation. In *The Translation Studies Reader*, edited by Lawrence Venuti, 113-18. London & New York: Routledge.
- KLEIN, DENISE, BRENDA MILNER, ROBERT J. ZATORRE, ERNST MEYER, & ALAN C. EVANS. 1995. The neural substrates underlying word generation: A bilingual functional-imaging study. *Proceedings of the National Academy of Science of the United States of America* 92(7): 2899-2903.
- KROLL, JUDITH F., & ERIKA STEWART. 1994. Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. *Journal of Memory and Language* 33: 149-74.
- KROLL, JUDITH F., JANET G. VAN HELL, NATASHA TOKOWICZ, & DAVID W. GREEN. 2010. The Revised Hierarchical Model: A critical review and assessment. *Bilingualism: Language and Cognition* 13: 373-81.
- KURZ, INGRID. 1995. Watching the brain at work – An exploratory study of EEG changes during simultaneous interpreting (SI). *The Interpreters' Newsletter* 6: 3-16.
- LAMB, SYDNEY. 1999. *Pathways of the Brain: The Neurocognitive Basis of Language*. Amsterdam: John Benjamins.
- MOSER-MERCER, BARBARA. 2010. The search for neuro-physiological correlates of expertise in interpreting. In *Translation and Cognition*, edited by Gregory Shreve & Erik Angelone, 263-88. Amsterdam & Philadelphia: John Benjamins.
- MUNDAY, JEREMY. 2001. *Introducing Translation Studies. Theories and Applications*. New York: Routledge.
- NILIPOUR, REZA, & HASSAN ASHAYERI. 1989. Alternating antagonism between two languages with successive recovery of a third in a trilingual aphasic patient. *Brain and Language* 36: 23-48.
- PARADIS, MICHEL, MARIE-CLAIRE GOLDBLUM, & RAOUF ABIDI. 1982. Alternate antagonism with paradoxical translation behavior in two bilingual aphasic patients. *Brain and Language* 15: 55-69.
- PARADIS, MICHEL. 2004. *A Neurolinguistic Theory of Bilingualism*. Amsterdam: John Benjamins.
- PERECMAN, ELLEN. 1984. Spontaneous translation and language mixing in a polyglot aphasic.

- Brain and Language* 23: 43-63.
- PÖCHHACKER, FRANZ. 2004. *Introducing Interpreting Studies*. New York: Routledge.
- QUARESIMA, VALENTINA, MARCO FERRARI, MARCO C.P. VAN DER SLUJIS, JAN MENSSEN, & WILLY N. J. M. COLIER. 2002. Lateral frontal cortex oxygenation changes during translation and language switching revealed by non-invasive near-infrared multi-point measurements. *Brain Research Bulletin* 59(3) : 235-43.
- RINNE, JUHA O., JORMA TOMMOLA, MATTI LAINE, BERND J. KRAUSE, DANIELA SCHMIDT, VALTTERI KAASINENI, MIKA TERÄS, HANNU SIPILÄ, & MARIANNE SUNNARI. 2000. The translating brain: Cerebral activation patterns during simultaneous interpreting. *Neuroscience Letters* 294 : 85-88.
- SELESKOVITCH, DANICA. 1978. Language and cognition. In *Language Interpretation and Communication*, edited by David Gerver & Wallace Sinaiko, 333-41. New York: Plenum Press.
- SQUIRE, LARRY. 2008. The legacy of patient H.M. for neuroscience. *Neuron* 61(1) : 6-9.
- TYMOCZKO, MARIA. 2012. The neuroscience of translation. *Target* 24(1) : 83-102.
- ULLMAN, MICHAEL. 2001. The neural basis of lexicon and grammar in first and second language: The declarative/procedural model. *Bilingualism: Language and Cognition* 4(1) : 105-22.
- VEYRAC, GUILLAUME-JULIEN. 1931. *Etude de l'aphasie chez les sujets polyglottes*. Paris: L. Arnette.
- WEEKES, BRENDAN S., & ILHAN RAMAN. 2008. Bilingual deep dysphasia. *Cognitive Neuropsychology* 25(3) : 411-36.

This article was first published at lacus.weebly.com.





I-BORROWINGS AND BRAND NAMES IN POLISH: THE CASE OF IPHONES, SMARTPHONES AND TABLETS

GRAŻYNA DRZAZGA
McMaster University

Abstract. New technology not only changes the way we experience the world, but also it has its reflection in languages other than English, because English Words such as *smartphone* as well as brand names like *iPhone* have to be assimilated into other linguistic systems, which involves conforming to all of the grammatical rules of those systems. This study concentrates on the usage of these new words in written Polish. The main focus of this paper is the mechanism of grammatical gender assignment, but declensional patterns will be also discussed. Given that there are differences in the grammatical properties of these borrowed words, the sources of inconsistencies in gender assignment are identified. One possible source may be that the usage of these vocabulary items in the case of a younger generation – the users of discussion forums – should not be analyzed as borrowings, but as examples of intentional or unintentional code switching.

Keywords: borrowings, brand names, grammatical gender, gender assignment

Languages: Polish, English

RECENT DEVELOPMENTS in technology have changed the ways we communicate and experience the world. Not only does the omnipresence of smartphones, laptops, and tablets change our access to information, but it also influences languages. Most of these devices were named in the current global lingua franca – English, while other languages have to incorporate the names for new technology into their grammatical systems. The current paper analyzes the use of brand names and recent borrowings in Polish that appeared following these technological developments. The main focus of the paper is the mechanism of grammatical gender assignment for these new words, but declensional patterns are also discussed.

The paper is divided into three sections. The first section constitutes a brief theoretical background to this investigation. Next, the data collected are presented and conclusions follow.

1. THEORETICAL BACKGROUND. Haugen (1950: 217) postulated that in order to function in a new language, loanwords “must be fitted into its grammatical structure.” English has pronominal gender and in principle only sex-differentiable referents are assigned grammatical gender. Polish, on the other hand, assigns grammatical gender to all nouns. Therefore, to function in the Polish

language all borrowed words have to be assigned gender as well. Moreover, new nouns have to fit into Polish declensional patterns. The next section of the paper briefly summarizes the grammatical gender system and the declensions of Polish nouns. A summary of how borrowings are adapted in Polish is presented in section 1.2.

1.1. GRAMMATICAL GENDER AND DECLENSION PARADIGMS IN POLISH. Polish nouns, as a rule, are assigned grammatical gender on the basis of the phonological form of the end of the word. For example, nouns that end with *-a* are typically assigned the feminine gender. The number of genders is a controversial issue. There are many explanations found in the literature and the number of genders given in different analyses ranges from three (Klemensiewicz, Lehr-Splawinski & Urbańczyk 1965) to seven (Wertz 1977). For the sake of this analysis, the simplest model with only three genders in the singular (masculine, feminine, neuter) is assumed.

Polish nouns fall into four different declensional paradigms, and there is a relationship between the gender and the declensional type of the noun. The declensional paradigms are masculine, feminine, neuter, and mixed (Doroszewski & Wieczorkiewicz 1964: 17). The mixed paradigm includes all nouns that do not consistently take forms of just one declensional pattern. It is beyond the scope of this paper to discuss all of the declensional patterns of Polish nouns. However, what is crucial for this study is that animate and inanimate nouns follow different patterns under the masculine paradigm. For inanimate nouns, the nominative case form is syncretic with the accusative case, while for animate nouns the forms of the genitive case and the accusative case are syncretic (Doroszewski & Wieczorkiewicz 1964: 27).

1.2. BORROWINGS IN POLISH. As mentioned in section 1.1., the grammatical gender of Polish nouns is, in the majority of cases, determined by the phonological and orthographic form of the ending of the noun. As far as borrowings are concerned, Corbett (1991: 72) claims that “in morphological systems [...], the loanword must be accommodated within the morphological pattern of the language. Its gender then follows from its morphology.” Consequently, it may be predicted that the morphological shape of a borrowed word predicts its gender and declensional type. However, the assignment is not that straightforward, because sometimes a borrowing “takes the gender of a noun of similar meaning already in the language” by the mechanism of semantic analogy (Corbett 1991: 75). Mańczak-Wohlfeld (1995: 57) lists *whiskey* as an example of such assignment as this word was assigned the feminine gender on the basis of the gender of the Polish word *wódka* ‘vodka’. As for the distribution of grammatical genders among borrowings, Mańczak-Wohlfeld (1995) reports that the majority of borrowed nouns (approximately 1300) are assigned the masculine gender. This may be explained by the fact that these words often end with a consonant, which – in Polish – signals membership in the masculine category.

Assimilation of new words can be also seen on the orthographic level. The most well established borrowings are now polonized and are spelled according to the pronunciation of the word – e.g. *dealer* is spelled *diler*. However, the polonized and original word forms are frequently used interchangeably, leading to inconsistencies in orthography (found in approximately 250 of the Anglicisms analyzed by Mańczak-Wohlfeld 1995). There are two possible explanations for these irregularities: either a language user who introduced the borrowing is fluent in English or the borrowing has not yet adapted to the Polish orthographic system (Mańczak-Wohlfeld 1995: 44).

2. BRAND NAMES AND BORROWINGS IN POLISH. Six words were chosen for this analysis: *iPhone*, *iPod*, *iPad*, *Apple*, *Google*, and *tablet*. The analysis is limited to written sources available online.

In order to capture the current state of these words, only sources from 2013 and 2014 are taken into consideration. The analysis concentrates on nouns in singular, as the new words are rarely used in plural.

2.1. IPHONE AND SMARTPHONE. The first word included in the study is the name of the smartphone produced by Apple, the iPhone. The brand names of Apple products are recognizable by the characteristic lowercase *i*. The *i* originally stood for the Internet and was first used in the name of the computer – *iMac* (Raletz 2012) but now is frequently, yet mistakenly, associated with the fact that Apple products are personal and innovative.

The *iPhone* was introduced worldwide in 2007, and this is the year of the word's first occurrence in Polish. In sources from 2007, the word is used in its original spelling and with no signs of its assimilation to the Polish system. For example, it was often used without case marking (e.g. *kupić iPhone* 'to buy an iPhone').

Interestingly, when the idea of the present study was born – in the winter of 2012 – the Apple website was still using an apposition *telefon iPhone* ('telephone iPhone') and only the word *telefon* was declined. This apposition is still used, but it is rare. Since then, the name *iPhone* has started to function independently and its gender was assigned by analogy to the word *telefon* ('telephone'), which is masculine and belongs to declensional type IV. This declensional type takes the *u* genitive suffix and the locative suffix, ie: *telefonu*, *telefonie* (Doroszewski). What is essential for this analysis is that, as mentioned in section 1.1., inanimate nouns have the same form in the nominative and accusative cases. However, on the website of the producer, Apple (Apple Polska), *iPhone* does not behave according to this pattern. As illustrated in (1) and (2), the genitive case has the *a* ending of masculine animates and the accusative case has the same form. Thus the noun follows the pattern of a masculine animate noun.

1. *Kup iPhone'a.*
Buy iPhone_{ACC}
2. *Porównanie modeli iPhone'a.*
Comparison of iPhone_{GEN} models

Table 1 compares the declension of the words *iPhone* and *telefon*. This situation is not exceptional, as in Polish there are numerous examples of inanimate nouns declining as animate (Wertz 1977).

Nominative	iphone	<u>telefon</u>
Genitive	<u>iphone'a</u>	telefonu
Dative	iphone'owi	telefonowi
Accusative	<u>iphone'a</u>	<u>telefon</u>
Instrumental	iphonem	telefonem
Locative	iphonie	telefonie
Vocative	iphonie	telefonie

Table 1. Declension of *iPhone* and *telefon* in Polish.

In order to check whether this pattern is well established in the language, the comments on internet forums were scanned for instances of the phrases that require the accusative case. It turns out that there are three versions of the accusative case: *iPhone*, *iPhone'a*, and *iphona*, as illustrated in examples (3-5).

3. *Czy warto kupić iPhone 4s?* (Zapytaj.onet.pl A 2013)
Is it worth it to buy the iPhone 4s_{ACC}?
4. *Warto kupić iPhone'a 4S?* (Zapytaj.onet.pl B 2013)
Is it worth it to buy the iPhone 4s_{ACC}?
5. *Ja osobiście wole iphona 5, a wy?* (Zapytaj.onet.pl C 2013)
I personally prefer the iPhone 5_{ACC}, how about you?

In the sources included in the study, no attempts to make the orthographical form of this brand name look more Polish were identified. The phonetic version *ajfon* is sometimes used, but only in a humorous and mocking way, as exemplified in (6).

6. *w kieszeni najnowszy ajfon, a mentalnie dalej tkwi w epoce kamienia lupanego*
(M.Wyborcza.pl)
the newest iPhone in his pocket but mentally he is still stuck in the Stone Age

The more general term, *smartphone*, contrasts with *iPhone*, showing assimilation at the orthographic level. Currently, there are two spelling versions of the word functioning in the language: *smartphone* and *smartfon*. There are two opposing tendencies: on one hand it may seem that the orthographically assimilated version - *smartfon* is becoming more and more frequent. On the other hand, as observed by Mańczak-Wohlfeld (1995: 293) there is a tendency, even in established borrowings, for example *dżin* ('gin') or *biznes* ('business'), to come back to their original graphic forms; thus one can expect the original spelling of *smartphone* to become the norm. The National Corpus of Polish (Pęzik 2012) seems to illustrate that the latter may be true, as it includes 67 occurrences of the word *smartphone* and only 16 of the word *smartfon*. As far as the declension and grammatical gender of the word are concerned, it seems to follow the pattern of *iPhone* with the genitive and the accusative cases being syncretic.

2.2. IPAD AND IPOD. The names of two other Apple products are currently functioning in Polish – *iPad* and *iPod*. They behave in an analogous way to *iPhone*. Both are masculine and decline as animate nouns (i.e., genitive and accusative cases are syncretic). However, as in the case of *iPhone*, users of the word are not consistent with morphological assignments, as illustrated in (7) and (8).

7. *Gdzie najtaniej kupić iPada?* (Onet 2013)
Where to buy iPad_{ACC} at the lowest price?
8. *Warto kupić iPad mini.* (Kominek.in 2013)
It is worth buying an iPad_{ACC} mini.

In both examples, the verb requires the accusative case. In (5) the suffix *a* is used, suggesting that the noun follows the paradigm of an animate noun. In (6), on the other hand, the accusative case is syncretic with the nominative case, implying that the noun is inanimate.

While the names of iPod and iPad do not bring any new observations to this analysis, one

model of an iPod is particularly interesting, the iPod touch. The manufacturer uses the name *iPod touch* on its Polish website (Apple Polska), but only the first word undergoes morphological change, as presented in examples (9 -10).

9. *Więcej informacji o funkcjach **iPoda touch*** (Apple Polska 2014)
Learn more about the features of iPod_{GEN} touch.
10. *Możesz więc teraz jeszcze łatwiej i skuteczniej robic na **iPodzie touch** wszystko to, co tak bardzo lubisz.* (Apple Polska 2014)
You're able to more easily and efficiently on iPod_{LOC} all the things that you like so much.

In (9) the word *iPod* is in the genitive case, with the suffix, *a*, while in (10) it is in the locative case, and both are followed by the word *touch*, which does not have any marking of Polish morphology.

However, users often apply morphology to both words, as exemplified in (11).

11. *Witam, chciałbym się was zapytać, czy warto kupić **iPoda toucha** 5g czy czekać na 6g, sprzęt chce zakupić w lutym* (PC Format, 2013)
Hi, I would like to ask you if it is worth buying an iPod_{ACC} touch_{ACC} 5g or should I wait for 6g, I want to buy the equipment in February at the latest.

2.3. APPLE. Examples included in the previous parts of this paper proved not to be problematic from the point of view of grammatical gender assignment in Polish. On the other hand, *Apple*, the name of the manufacturer of the devices, illustrates an instance of an English word that does not fit into the morphophonological system of Polish and poses a challenge. From the phonological perspective, the consonant cluster [pl] does not occur in word-final position in Polish words; thus there are no words that could help to assign gender by analogy. When it comes to the orthography, in Polish the suffix *e* normally marks plural or soft-stem neuters. But when we look at the data, we find that the word *Apple* is assigned either masculine or neuter genders, as illustrated in examples (12-13).

12. *Apple **powiedziało**, że sprzeda 75 mln sztuk taniego iPhone'a w 2014 roku* (Kacio 2013)
Apple said_{NEUTER} that it will sell 75 million of the cheap iPhone in 2014
13. *Apple **rozpoczął** 64-bitową rewolucję* (Gajewski 2013)
Apple started_{MASCULINE} the 64-bit revolution

The assignment of the neuter gender may also be explained by the fact that in Polish the equivalent of the common noun *apple* is a neuter noun *jabłko*. From (14), we see that the feminine gender can also be assigned to *Apple*, but only if the word *firma* 'company' forms an apposition with the name.

14. *Firma Apple **ustaliła**, że 64 GB i 128 GB pamięci flash dyski używane w poprzedniej generacji MacBook Air mogą być wadliwe.* (Budziejewski 2013)
The Apple Company_{FEM} established_{FEM} that 64 and 128 GB flash drives used in the previous generation of MacBook Air may be defective.

2.4. GOOGLE. The word *Google* seems to pose problems like those posed by *Apple*. Bańko (2008) suggests that there are three ways to deal with the problematic *Google*: 1) do not decline at all; 2) decline it as a masculine animate noun; 3) treat it as a pluralia tantum. The last choice seems to be the most colloquial and is motivated by the pronunciation of the word that is common among Polish speakers, [gugle]. When it comes to grammatical gender, it appears that in addition to the masculine form suggested by Bańko (2008), neuter gender is sometimes assigned, as illustrated in (15).

15. *Google wprowadziło spore zmiany w swoim serwisie społecznościowym* (Garczyński 2013)

Google introduced_{NEUTER} major changes to its social portal.

However, it appears that the assignment of the masculine gender, as exemplified in (16), prevails and has started to become the norm.

16. *Google wprowadził możliwość tworzenia profili dla firm.* (Inetmedia.pl 2013)

Google introduced_{MASCULINE} an opportunity to create profiles for the companies.

2.5. TABLET. The last example included in the analysis is not a brand name, but a recent borrowing that is also connected with the development of technology. The word *tablet* is an interesting example of a borrowing that, for a long time, functioned in two declensional patterns: *tableta* or *tabletu* in the genitive and *tableta* or *tablet* (respectively) in the accusative case.

However, one of the patterns started to become more and more popular and now it seems to have emerged as the norm. According to Dubrawski (2012), the latest PWN dictionary lists *tabletu* as the correct genitive case, so the form *tableta* should be marked as a mistake. All things considered, the word *tablet*, after causing confusion for a long time, developed a pattern and was in the end formalized; thus it seems to have become established in the Polish language system.

3. ARE POLISH USERS OF *IBORROWINGS* BILINGUAL? Haugen (1950: 210) claims that borrowings are introduced by bilingual speakers as “all borrowing by one language from another is predicated on some minimum of bilingual mastery.” The analysis of the brand names and recent borrowings in Polish revealed many inconsistencies in their gender assignment, declensional type and orthographical form. In texts on discussion forums written by users of new technology, it often appears that English words are not borrowings, but rather instances of code-switching. This observation is confirmed by the fact that Polish internet users use many English words, even if there are Polish equivalents, for example *download* or *user* (e.g., *jestem userem* ‘I am a user’). To add to that they often post links to websites in English.

4. CONCLUSIONS. In times when there is a great influx of English brand names being introduced into Polish, it seems that assigning grammatical gender to these words is not problematic. Most words will be assigned gender based on the morpho-phonology of the word or by analogy with existing Polish words. It is the declensional type that is challenging because, as illustrated by the words *iPhone*, *iPad*, and *iPod*, there is little consistency in the types used. However, the example of *tablet* shows that after some time one of the patterns will emerge as more popular and become the norm.

On the other hand, if a new word does not fit into the morpho-phonological system of Polish,

as in the case of *Apple* and *Google*, then the assignment of gender and declensional type will not be straightforward. However, it may be assumed that with time morphological assignments will become conventionalized.

Borrowings from English constitute an exceptional case, as it may be assumed that Polish users of these devices are bilingual, at least to some degree, as they code-switch and use links to websites in English. Nevertheless, there is a clear need for some kind of formalization of the usage of these words in Polish, because users are asking linguists for their opinions on how to use these new words correctly.

In conclusion, “borrowing [...] is a process and not a state” (Haugen 1950: 213) and the main goal of this paper was to take a snapshot of what is happening with these new words in Polish right now. The process of their adaptation is very rapid, thus it gives a unique opportunity to observe how new words get assimilated into a linguistic system.

REFERENCES

- APPLE POLSKA. 2014. Accessed January 31, 2014. <http://www.apple.com/pl/>
- BANKO, MIROSLAW. 2008. Google. *Wydawnictwo Naukowe PWN SA*, last modified December 28, 2008. <http://poradnia.pwn.pl/lista.php?id=9771>
- BUDZIEJEWSKI, TOMASZ. 2013. Apple wprowadza bezpłatny program wymiany dysków flash w Macbook Air. *Brainstorm Lab*, last modified October, 22, 2013. <http://bslab.pl/2013/10/22/apple-wprowadza-bezplatny-program-wymiany-dyskow-flash-w-macbook-air/>
- CORBETT, GREVILLE, G. 1991. *Gender*. Cambridge: Cambridge University Press.
- DOROSZEWSKI, WITOLD. *Słownik języka polskiego*. Accessed January 31, 2014. <http://doroszewski.pwn.pl/haslo/telefon/>
- DOROSZEWSKI, WITOLD, & BRONISŁAW WIECZORKIEWICZ. 1964. *Gramatyka opisowa języka polskiego z ćwiczeniami. Tom II: Fleksja, składnia*. Warszawa: Państwowe Zakłady Wydawnictw Szkolnych.
- DUBRAWSKI, RAFAŁ. 2012. Tabletu czy tablet? Smartfon czy smartphone? Jak poprawnie zapisać iPhone? *Antyweb.pl*, last modified on May 14, 2012. <http://antyweb.pl/tabletu-czy-tableta-smartfon-czy-smartphone-jak-poprawnie-zapisac-iphone/>
- GAJEWSKI, MACIEJ. 2013. Apple rozpoczął 64-bitową rewolucję. *Chip.pl*. last modified September 18, 2013. http://www.chip.pl/artykuly/technika/2013/09/apple-rozpoczal-64-bitowa-rewolucje?b_start=int=1
- GARCZYŃSKI, PRZEMYSŁAW. 2013. Google wprowadziło spore zmiany w swoim serwisie społecznościowym. *Komputer Świat*, last modified October 30, 2013. <http://www.komputerswiat.pl/nawosci/internet/2013/44/google-wprowadzilo-spore-zmiany-w-swoim-serwisie-spolecznosciowym.aspx>
- HAUGEN, EINAR. 1950. The analysis of linguistic borrowing. *Language* 26: 210-31.
- INETMEDIA.PL. 2013. Google wprowadził możliwość tworzenia profili dla firm. Last modified November, 26 2013. <http://www.inetmedia.pl/blog/236-google-wprowadzil-mozliwosc-tworzenia-profilu-dla-firm.html>
- KACIO. 2013. Apple powiedziało, że sprzeda 75 mln sztuk taniego iPhone’a w 2014 roku. *Technogadzet.pl*. Last modified April 17, 2013. <http://technogadzet.pl/2013/04/17/apple->

- powiedzialo-ze-sprzedza-75-mln-sztuk-taniego-iphonea-w-2014-roku/
KLEMENSIEWICZ, ZENON, TADEUSZ LEHR-SPLAWIŃSKI, & STANISŁAW URBAŃCZYK. 1965.
Gramatyka historyczna języka polskiego. Warszawa: Wydawnictwo Naukowe PWN.
- KOMINEK.IN. 2013. iPad a iPad mini – czy warto zamieniać dużego na małego. Last modified April 4, 2013. <http://www.kominek.in/2013/04/ipad-a-ipad-mini-czy-warto-zamieniac-duzego-na-malego/>
- MAŃCZAK-WOHLFELD, ELŻBIETA. 1995. *Tendencje rozwojowe współczesnych zapożyczeń angielskich w języku polskim*. Krakow: Universitas.
- M.WYBORCZA.PL. 2013. Druga twarz legendy tenisa? Mówił, że jesteśmy miłe dziewczyny i spodobamy się jego kolegom. Accessed January 31, 2013.
http://m.wyborcza.pl/wyborcza/1,105226,14025323,Druga_twarz_legendy_tenisa___Mowil_ze_jestesmy_mile.html?v=1&obxx=14025323&order=najfajniejsze&page=6
- ONET. 2013. Gdzie najtaniej kupić iPada. Last modified September 25, 2013.
<http://technowinki.onet.pl/biznes-i-finance/gdzie-najtaniej-kupic-ipada/5g7td>
- PC FORMAT. 2013. iPod touch 5g, pomoc w zakupie, warto??. Last modified January 1, 2013.
<http://forum.pcformat.pl/iPod-touch-5g-pomoc-w-zakupie-warto-t>
- PEŹIK, PIOTR. 2012. Wyszukiwarka PELCA dla danych NKJP. *Narodowy Korpus Języka Polskiego*.
- RALETZ, ALYSON. 2012. Man who came up with iMac name tells what the ‘I’ stands for. *Kansas City Business Journal*. Last modified June 18, 2012.
<http://www.bizjournals.com/kansascity/blog/2012/06/man-who-came-up-with-imac-name-tells.html?page=all>
- WERTZ, CHRISTOPHER, A. 1977. The number of genders in Polish. *Canadian Slavonic papers* 19: 50-63.
- ZAPYTAJ.ONET. PL. 2013. A “Czy warto kupić iPhone 4s?,” last modified October 20, 2013.
http://zapytaj.onet.pl/Category/007,021/2,25984512,Czy_warto_kupic_iPhone_4s_.html
- ZAPYTAJ.ONET. PL. B. 2013. “Warto kupić iPhone’a 4s?,” last modified April 21, 2013.
http://zapytaj.onet.pl/Category/007,021/2,24285867,Warto_kupic_iPhone039a_4S_.html
- ZAPYTAJ.ONET. PL. C. 2013. “iPhone 5 vs Samsung Galaxy s4,” last modified July 08, 2013.
http://zapytaj.onet.pl/Category/017,008/2,25079191,iPhone_5_vs_Samsung_Galaxy_s4.html

This article was first published at lacus.weebly.com.





THE MODERN HEBREW ROOT AS A COGNITIVE CATEGORY

IGNACIO L. MONTROYA

The Graduate Center, City University of New York

Abstract: In root-based accounts of Modern Hebrew morphology, the primary basis of word formation is the consonantal sequence known as the root. Word-based accounts deny the existence of the root based on the fact that it is neither necessary nor sufficient to account for the derivational patterns in the language. A variety of evidence, including psycholinguistic results and distributional facts, is available in support of both of these positions, though neither of these models can account for all of the evidence. This paper presents an alternative to both root- and word-based accounts by applying a usage-based model. Under this model, the root is considered a cognitive category rather than a classical category. Taking this perspective, the root can be viewed as emergent from relationships among surface words. Doing so unifies the insights from the previous root- and word-based accounts.

Keywords: usage-based grammar, Hebrew, Semitic languages, morphology, root, cognitive categories, emergence

Language: Modern Hebrew

Modern Hebrew¹ belongs to the Semitic language family. The membership of this language family is well established. Linguists generally agree on what constitutes a Semitic language, both with regard to extant and extinct languages (Bennett 1998:19). This consensus can be attributed in part to the related morphological systems that the member languages have in common (Saenz-Badillos 1993:21). A central element shared by Semitic morphological systems is what has been traditionally referred to as a root, a linguistic structure that is based on an observed correspondence between a consonantal sequence and a semantic core. The grammatical status of this element has been a source of debate in the field of linguistics.

In this paper, an alternative to previous formal approaches – both root-based and word-based

¹ Modern Hebrew will be simply referred to as *Hebrew* in this paper. Though the present analysis is based on data from Modern Hebrew, I propose that it is generally applicable to historical varieties of Hebrew as well (cf. Sáenz-Badillos 1993).

– will be provided under a usage-based model. Formal approaches treat the Semitic root and other grammatical units as categories in the classical sense; the approach in this paper will treat Semitic roots as emergent cognitive categories.

1. THE LINGUISTIC PATTERN. The basis of the notion for the Semitic root is the widely noted observation that groups of semantically-related words in languages such as Hebrew contain a discontinuous, typically tri-consonantal sequence, as exemplified in (1), (2), and (3).

- (1) *katav* ‘he wrote’, *kitev* ‘he addressed’, *hitkatev* ‘he corresponded’, *ktiva* ‘writing’, *ketiv* ‘spelling’
- (2) *sider* ‘he arranged’, *hisdir* ‘he systematized’, *histader* ‘he managed’, *histadrut* ‘organization’, *sadir* ‘regular’
- (3) *gadal* ‘he grew’, *gidel* ‘he raised’, *higdil* ‘he enlarged’, *godel* ‘size’, *gadol* ‘big’

The set of words in (1) all contain the phonological sequence *k-t-v* and all seem to be related in some way to WRITING. In (2), the sequence *s-d-r* is associated with a set of words with meanings related to ARRANGEMENT. In (3), *g-d-l* occurs in words that involve GROWTH or LARGENESS. These three sets of words illustrate a salient phenomenon in Hebrew, particularly in the verbal paradigm: a phonological form consisting of a discontinuous tri-consonantal sequence that is associated with a rather abstract, but readily discernible, common semantic core.

2. FORMAL ACCOUNTS

2.1 ROOT-BASED APPROACHES. One kind of account proposed to explain this linguistic pattern is what can be referred to as a root-based approach. This represents the more widely accepted treatment of the Semitic distributional pattern (e.g., Harris 1941; Chomsky 1979; McCarthy 1981; Arad 2005). Under a root-based account, words in Semitic can be decomposed into at least two lexical units: the root and the template;² the former unit carries the semantic content and the latter carries inflectional information. For example, a word such as *katav* ‘he wrote’ would be decomposed into the root *k-t-v*, corresponding to ‘writing’, and the template $C_1aC_2aC_3$, corresponding to 3SG.MASC.PST.

In such an approach, the root is an atomic unit that pairs a phonological form with a core meaning and is not decomposable further, making the root a sign in the Saussurean sense (Arad 2005:6,12). In other words, roots such as *k-t-v* in (1), *s-d-r* in (2), and *g-d-l* in (3) are lexically stored morphemes. Their prevalence in the distribution in Hebrew can be attributed to the fact that they form an essential part of the morphological system of Semitic languages.

2.2. WORD-BASED APPROACHES. An alternative to the root-based account involves taking the word as a foundational lexical unit. Under word-based approaches, the abstract consonantal root is neither necessary nor sufficient to account for the distributional patterns observed in Section 1 (Bat El 1994; Benmamoun 2003; Ussishkin 2005).

Indeed, viable models can be developed which do not employ the root as a grammatical unit. For instance, a form such as *ktiva* ‘writing’ can be derived directly from *katav* ‘he wrote’ by simply

² The template is also referred to as the *binyan*, or the pattern. In some accounts, this unit is further divided into a vocalic melody and a prosodic skeleton (cf. Ussishkin 2005).

modifying vowels, akin to the process of Ablaut common in Germanic languages³ (cf. Stem Modification in Bat El 1994). In this kind of approach, words or stems, specified with both consonants and vowels, are the lexical units. Since processes such as Stem Modification make no reference to a consonantal root, linguists working under a word-based framework conclude that such a unit is not relevant to the grammar.

Moreover, sometimes roots as grammatical units are not sufficient, as can be seen with clusters in five-consonant denominal verbs.

- (4) a. *priklet* ‘to practice law’ < *praklit* ‘lawyer’
 b. *sindler* ‘to make shoes’ < *sandlar* ‘shoe maker’

In (4a), the denominal verb has the syllable shape CCVCCVC, whereas in (4b) it has the shape CVCCVC. Under a root-based model in which root consonants are extracted from the source word and inserted into the appropriate template, the position of the cluster should not depend on the source noun provided that no phonological restrictions, such as the Sonority Sequencing Generalization, are violated, as is indeed the case in these examples. Given that the reference to the source noun is required, these denominal verbs cannot consist of solely a root and template (Bat El 1994). On the basis of these and related observations, roots under word-based models do not have lexical status.

2.3. ISSUES WITH THE SEMANTIC CORE. Another complication for root-based approaches involves the semantics of roots. Though (1), (2), and (3) presented a relatively straightforward representation of the form-meaning pairing, additional data further complicates the situation.

- (5) *ketuba*⁴ ‘marriage certificate’
 (6) *seder* ‘Passover meal’
 (7) *migdal* ‘tower’

The words (5), (6), and (7) have the same roots as (1), (2), and (3), respectively. The common phonological sequence is readily discernable in each case, but the meaning association is less transparent. Though these sets of words may be indeed be etymologically related, that does not indicate that they are also related synchronically, which is the issue at hand. In (5), for example, though a marriage certificate does involve writing in some way, the relationship between WRITING and MARRIAGE CERTIFICATE is arguably more idiosyncratic than that between WRITING and SPELLING. Moreover, it is not clear why the word for a marriage certificate would be associated synchronically with the root associated with writing but not the word for a death certificate or a certificate in general. In (6), it is possible to discern a synchronic connection between the concept of ARRANGEMENT and a ritually structured event such as the Passover meal; however, the core meaning of (6) would likely be closer to MEAL than ARRANGEMENT. Finally, though the semantic relationship between ‘he grew’ and ‘he enlarged’ in (3) may be straightforward, the relationship between those words and ‘tower’ in (7) is more distant. In some instances, therefore, words associated with a common semantic core can have idiosyncratic connections that more accurately

³ Vestiges of these processes are found in English, as in *sing* ~ *sang*, *drive* ~ *drove*, *eat* ~ *ate*.

⁴ Note the alternation with the third root consonant. In (1), it is *v* and in (5), it is *b*. This is an example of a well-known spirantization pattern involving the pairs *b-v*, *p-f*, and *k-x*. Arguably, the root associated with WRITING, *k-t-v* could be considered *k-t-b*. In either case, the spirantization process accounts for the alternation.

reflect etymological relationships than synchronic relationships.

A greater difficulty arises with additional data in (8), (9), and (10). Whereas with regard to (5), (6), and (7), a common core can nevertheless be ascertained despite the idiosyncratic expression of more marginal cases, the sets of words in (8), (9), and (10) make the task particularly problematic.

- (8) *kived* ‘he offered refreshment’, *hiχvid* ‘he honored’, *kavad* ‘he burdened’
- (9) *karav* ‘he approached’, *kitkarev* ‘he sacrificed’, *karov* ‘relative’
- (10) *χaver* ‘friend’, *taχbir* ‘syntax’, *χibur* ‘composition’

In all of these cases, though the words in each set may indeed be etymologically connected, not only is it difficult to discern a common semantic core at the synchronic level, the meanings of some words in each set (e.g., ‘he offered refreshment’ and ‘he burdened’ in (8)) appear to be contradictory. Modern Hebrew exhibits many instances of a variety of relationships: transparent semantic relationships as in (1), (2), and (3); opaque semantic relationships as in (4), (5), and (6); and no apparent semantic relationship as in (8), (9), and (10).

3. A USAGE-BASED APPROACH. The challenge to root-based approaches presented thus far might lead one to conclude that the best approach to take is a word-based approach. Indeed, word-based models do not encounter difficulty with lack of transparency among words that share a root because the root itself is not a grammatical unit in those models. However, though word-based models are viable accounts of the derivational system of Semitic languages, they fail to address certain significant observations about these languages.

For one, as noted earlier, the distributional pattern that is the basis of the notion of the root in root-based accounts is widespread throughout Semitic languages, both cross-linguistically and diachronically (Versteegh 1997:11). In addition, native speakers have intuitions about roots, and it is taught explicitly to positive effect in the instruction of L2 learners. Moreover, psycholinguistic work on the root suggests that roots have effects on processing (Feldman, Frost & Panini 1995; Frost, Forster & Deutsch 1997; Deutsch et al. 2000; Prunet 2006). The fact that, for instance, roots have priming effects suggests that they are in some way a cognitively real entity. None of these facts has been accounted for in word-based models.

Indeed, we see that both root-based and word-based approaches have limitations. The main challenges to root-based accounts are the many cases where a common semantic core cannot be determined and the fact that a viable model can be designed that makes no use of the root as a grammatical unit. The main challenges for the word-based account are the salience and prevalence of the root in the distribution of Semitic languages and the variety of external evidence that suggests that the root is a psychologically real entity for speakers.

Both of these kinds of accounts can be characterized as formal approaches. In these accounts, the value of parsimony can be seen in their attempt to characterize the root in a simple, consistent manner. This has led them to posit either a system in which the root is fundamental in the morphological system or a system in which the root plays no role. Both morpheme-based and word-based approaches are focused on structural considerations and separate the system from its usage. In this paper, an alternative approach will be employed, one in which usage interacts with the linguistic system.

In a usage-based model, grammar is defined as “the cognitive organization of one’s experience with language” (Bybee 2006:11). This model exhibits many properties that distinguish it from

formal models. For one, gradience and variation are incorporated into the linguistic structure, in contrast to formal approaches that seek to describe an idealized version of the structure by abstracting away from variability in usage. In a usage-based approach, grammar derives from general cognitive processes such as categorization and memory. As a result, findings from other fields, such as cognitive science, bear on linguistic theory. Another characteristic of this approach is that grammar is also shaped by usage. With regard to morphological structure, for example, Bybee writes that “even though words entered in the lexicon are not broken up into their constituent morphemes, their morphological structure emerges from the connections they make with other words in the lexicon” (Bybee 1995:429). An important idea, then, is that the basis of the lexicon is words themselves, since the words are what the user experiences directly. In this way, a usage-based grammar is more similar to word-based than to morpheme-based approaches. However, this model also allows for morphemes as emergent units that arise from general cognitive processes. A usage-based model, therefore, does not in principle rule out root-based categories as long as there is evidence for them in the linguistic data available to the speaker.

3.1. THE ROOT AS A COGNITIVE CATEGORY. Rather than attempting to explain the patterns of the Semitic root using one of the aforementioned formal approaches, I propose that an alternative analysis under a usage-based model better accounts for the data than either a strictly word-based or root-based approach. Rather than being treated as other grammatical categories are in formal models (i.e., as categories in the classical sense), the root in languages such as Hebrew should be viewed as a cognitive category. It would therefore be expected to display properties of other cognitive categories. One way to evaluate this notion of roots is to determine the extent to which properties of cognitive categories apply to roots.

3.1.1. CLASSICAL CATEGORIES DEFINED. A classical category is determined by a set of necessary and sufficient features, which is a notion that has shaped thinking in philosophy since the time of Aristotle (Taylor 2003:20). For example, BACHELOR may be defined as an entity with the properties of being human, male, unmarried, and adult.

Classical categories are based on the law of contradiction and the law of the excluded middle, which together assert that an entity cannot both be and not be and that it must either be or not be. An entity, therefore, cannot both possess a particular feature and not possess it. From this it follows that features are binary (Taylor 2003:21). In this view, only two options exist for categorizing in terms of a given feature: either married or unmarried, either adult or not adult, etc.

Classical categories therefore have clear boundaries; if a necessary feature is absent, then the entity is not a member of the category. Someone who is not an adult cannot be a bachelor. Consequently, there are no hierarchies within a category and all members have the status within a given category (Taylor 2003:21). It is not possible, therefore, for one unmarried, single, adult human to be more of a bachelor than another unmarried, single, adult human; after all, both possess all of the necessary features to qualify as bachelors, even if one has possessed them for longer or if he also possesses other features that may be informally associated with a bachelor (e.g., living in a home that others would characterize as a so-called bachelor pad).

These logic-based views of categories have been adopted by many models of language (Taylor 2003:22). Indeed, the debate about the status of roots in Semitic languages reflects these perspectives. Roots are seen either as full-fledged grammatical units or as not grammatical units at all: either *s-d-r* paired with ARRANGEMENT is a morpheme or it is not a linguistic sign at all; moreover, if *s-d-r* is a morpheme then all tri-consonantal sequences that pattern like it in the verbal

system are also morphemes. Indeed, if roots must be treated as classical categories, then the only two options available are precisely those that have been offered by formal approaches.

3.1.2. COGNITIVE CATEGORIES DEFINED. Cognitive categories, on the other hand, are based on experimental findings on cognition. Rather than being described using principles of formal logic, they are shaped by observations about how the mind works. As a result, rather than being defined in terms of a set of shared features, cognitive categories are characterized by a “criss-crossing network of similarities” (Taylor 2003:42). Cognitive categories, therefore, exhibit family resemblance relationships, as described by Wittgenstein (as cited in Taylor 2003). With regard to the category of GAME, for instance, entities as diverse as baseball, chess, solitaire, and peek-a-boo all constitute games, despite the fact that no set of defining properties can characterize them.

Categories based on family resemblance relationships can also exhibit prototype effects. Members of a given category can potentially be viewed along a continuum of more central to more peripheral members. With a concept such as FURNITURE, for instance, psychologists have conducted experiments in which participants are asked to judge the extent to which items such as dressers, desks, and shelves are examples of furniture. The results indicate that people consider chairs and tables as more prototypical examples of furniture relative to the more marginal mirrors and magazine racks, which tend to be judged as members of the category based on their similarity to the more prototypical members (Rosch 1975). As this example demonstrates, it is noteworthy that categories can exhibit prototype effects even without a single explicit prototype.

Alternatively, entities connected through family resemblance relationships can also exhibit what can be referred to as meaning chains (Taylor 2003:117). This would involve an instance where A is closely related to B, which is related to C, which is related to D, but where A and D do not resemble each other. Taylor, for instance, describes the various senses of *over* in this way, such that its occurrence in sentences such as *The lamp hangs over the table*, *Come over here*, *He got over his parents' death*, and *It isn't over till it's over* can be related in terms of related meanings where every usage can be related to at least another usage even if not all usages can be related to each other (2003:112-116).

A result of categories that are organized around a prototype or whose members exhibit meaning chains is that category boundaries can be fuzzy, that is, difficult to determine precisely. In other words, it can be difficult to ascertain whether a given entity belongs to a category or not, especially with regard to cases that are considered more marginal. Moreover, categories can merge into one another, whereby a marginal member of one category may also be a marginal member of a different category. This can be seen in the domain of colors, where, for instance, maroon can potentially be seen as a member of either the category RED or the category PURPLE.

Another result of categories defined by family resemblance relationships is that not all members of a category have equal status. We would therefore expect to see what are referred to as degree of membership effects, which involves speakers judging one entity a better member of a category than another (e.g., a chair being judged a better representative of the category FURNITURE than a mirror). Both fuzzy boundaries and degree of category effects are explicitly ruled out with regard to classical categories.

3.1.3. APPLICATION TO THE HEBREW ROOT. If, as I claim in this paper, the Hebrew root is an instantiation of a cognitive category, then the general properties of cognitive categories should describe Hebrew roots as well. Indeed, this claim does seem to be supported by the data: members of roots exhibit family resemblance relationships.

3.1.3.1. ORGANIZATION AROUND A PROTOTYPE. Many roots are organized around a prototype, which can be seen by the fact that these kinds of roots all share a common attribute. For example, in what was presented in (10) as a group of unrelated words, we can more clearly see the relationship among these words by examining (11), which is an extension of (10).

(11) *χiber* ‘he connected’, *χaver* ‘friend’, *taxbir* ‘syntax’, *χibur* ‘composition’

We can see that ‘friend’, ‘syntax’, and ‘composition’ of (10) do have an attribute in common by considering that the prototype for that category is CONNECTION, shown by the word for ‘he connected’, which is also a member of the *x-b-r* root category. Similarly, in (12), the prototypical member of the root category is ‘he stopped’, with the other three members shown all exhibiting qualities related to the concept of STOPPING.

(12) *pasak* ‘he stopped’, *hifsik* ‘he interrupted’, *hafsaka* ‘break’, *pisuk* ‘punctuation’

In both of these sets, a more central, prototypical member can be identified to which the other members of the category are related.

3.1.3.2 MEANING CHAINS. A single common attribute, though, is not the only way to characterize how words associated with a common root are related. For some roots, the best way to see the relationship among the constituent words is to consider a meaning chain in which A does not seem to resemble B, but A resembles B, which resembles C, which resembles D.

(13) *filem* ‘he paid’, *hiflim* ‘he completed’, *haflama* ‘acceptance’, *salom* ‘peace’

In (13), for example, we can see a relationship between paying for something and completing a task since the PAYING is in a way a subset of COMPLETION; after all, payment is the completion of a transaction between a buyer and a seller. The concept of COMPLETION can also be related to ACCEPTANCE, as acceptance of a fact or of a product involves the fact being established or a product being finished. Many philosophical, religious, or therapeutic traditions also hold that there is a strong relationship between ACCEPTANCE and PEACE. For each word, therefore, we can see a relationship with at least one other word, but the relationship between some words, such as those involving the concepts of PAYING and PEACE, is not particularly transparent.

Using meaning chains as an organization tool for potentially related words also helps clarify some of the issues raised earlier in which a single root seemed to be associated with contradictory notions (i.e., offering refreshment to someone and burdening someone) in (8), which is repeated in (14) with an additional member of the set.

(14) *kived* ‘he offered refreshment’, *hixvid* ‘he honored’, *kaved* ‘heavy’, *kavad* ‘he burdened’

The connection between offering refreshment to someone and honoring someone seems straightforward as does the relationship between something being heavy and something being a burden. In addition, though, HONOR and HEAVINESS also seem related. When we speak of a serious topic, we can also refer to it as a heavy or weighty topic. Someone who idiomatically “carries a lot of weight” is often worthy of our respect, in contrast to someone we do not take seriously, someone we “treat lightly” (Horowitz 1993:44). Describing relationships with meaning chains, therefore, allows us to connect meanings that at first appear to be unrelated or even contradictory.

3.1.3.3. FUZZY BOUNDARIES. One consequence of categories whose members exhibit family resemblance relationships is that boundaries for a given category are not clear, which can result in categories merging into one another. With regard to roots in Hebrew, the expectation would be that some meanings belong to more than one category. This can be seen by looking at the fact that in (15), (16), and (17), a word meaning ‘he trusted’ is found in all three sets.

- (15) *betixut*, ‘security’, *batax*, ‘he trusted’, *hivtiḥ* ‘he promised’, *betaḥ* ‘sure! (interjection)’
- (16) *ʔemuna* ‘faith’, *hiʔmin* ‘he trusted’, *ʔimen* ‘he trained’, *ʔuman* ‘craftsman’, *ʔomanut* ‘art’
- (17) *somex* ‘supporter’, *samax* ‘he trusted’, *masmiḥ* ‘he authorized’, *smiḥa* ‘ordination’

All three sets of words have meanings that exhibit family resemblance relationships: (15) seems to be built around a prototype associated with SECURITY and (16) and (17) are both examples of meaning chains. In other words, all three are organized as cognitive categories, and the result of this is that a meaning conveying the notion of ‘trust’ can readily be associated with any of those categories. Indeed, a prediction with cognitive categories is that they will exhibit precisely this kind of overlap.

3.1.3.4. DEGREE OF CATEGORY EFFECTS. Another consequence of the root being a cognitive category involves degree of category effects, whereby speakers have intuitions about one word being a better representative of a particular root than another word. For example, with *k-t-v*, the root associated with WRITING, speakers I have asked have the intuition that *miḥtav* ‘letter’ is a better representative of the root than the aforementioned *ketuba* ‘marriage certificate.’ Similarly, *gadlut* ‘greatness’ is judged to be a better representative of the root *g-d-l* associated with GROWTH/LARGENESS than *migdal* ‘tower’. These intuitions are expected to generalize to a wider range of speakers. However, even if speakers disagree about these specific intuitions, the very fact that they have intuitions related to goodness of fit of a word to a root category is counter to what would be predicted if speakers thought of roots as categories in the classical sense. A usage-based model, on the other hand, allows and, in fact, predicts that different speakers will have different judgments since they all have variable experiences with the linguistic input from which they are drawing their generalizations.

3.2. EMERGENCE. A corollary to the proposition that Hebrew roots are cognitive categories is that Hebrew roots are also emergent. Under a usage-based model, morphological structure does not exist a priori; rather than being innate, structure arises from the general cognitive process of generalization as the learner starts to recognize patterns (e.g., Bybee 2010). As a speaker is exposed to multiple exemplars of a given phonological sequence and starts to see that a particular meaning is associated with that sequence, that is when a given root will emerge as a linguistic structure. In other words, a unit emerges when it becomes a category in the minds of speakers, which is naturally expected to vary from speaker to speaker.

Under this approach, therefore, roots as categories are not expected to always emerge. In other words, even if a set of words has a shared consonantal sequence, speakers will not always intuit a shared meaning between those words. In forthcoming work, I explore in greater detail the conditions that support emergence of the root as a linguistic category.

Two conditions that are proposed in this paper to support root emergence are type frequency and semantic similarity. Type frequency refers to how many words are associated with a given consonantal sequence. In the domain of verbs, for instance, *d-j-k*, which involves the meaning of

‘being prompt’, has only one verbal template associated with it; in contrast, *k-d-m* which involves the meaning of ‘being early’, is associated with six of the seven possible templates⁵. The sequence *k-d-m* is expected to lead to stronger root emergence than *d-j-k* because of the higher type frequency of the former.

Semantic similarity refers to how close the meanings of individual words are to one another⁶.

(19) *kvif* ‘paved road, highway’, *kavaf* ‘he conquered’, *kvufim* ‘pickles’

Words with the consonantal sequence for *g-d-l*, as in (3), are much more semantically similar to one another than words in the set associated with *k-v-f* in (19) (cf. Aronoff 2007). Both have a formal root (i.e., a common consonantal sequence playing similar structural roles), but only *g-d-l* is expected to be associated with an emergent root because of the semantic similarity of its members.

In this model, therefore, root emergence is linked to high type frequency and high semantic similarity: the higher number of words with a given consonantal sequence and the more the meanings resemble each other, the more likely a speaker will treat that consonantal sequence as a root. Moreover, root emergence is not expected to be categorical; rather, it should show effects of a cline, with some consonantal sequences strongly associated with a particular abstract meaning and other sequences only weakly, if at all, associated with a meaning.

3.3. EMPIRICAL PREDICTIONS. If a unit emerges as a root, that is, as a consonantal sequence that is associated with a particular meaning, then this unit should play a role in linguistic behavior, which we can then either observe or elicit.

One prediction is that on root identification tasks and similarity judgments, when Hebrew speakers are given two words that share a consonantal sequence, they are more likely to identify that sequence as a common root and judge those two words as more similar if the consonantal sequence represents a strongly emergent root relative to a consonantal sequence that is a weakly emergent root or if the root is not emergent. This has been attested informally, as two native speakers I polled judged words such as *maxfev* ‘computer’ and *laχfov* ‘to think’ as more similar than *taxbir* ‘syntax’ and *χaver* ‘friend’. The former were considered to have the same root, whereas the latter had different roots.

Words that share an emergent root are also expected to be treated more similarly with regard to phonological variation and spelling. In other words, if a word can be pronounced or written in more than one way, it is more likely to resemble another word with that sequence if the two share an emergent root. For example, two factors contribute to some sets of words being able to be spelled in two different ways: historical mergers (e.g., the historical voiceless pharyngeal fricative, *ħ*, and the historical voiceless velar fricative, *x*, are both now pronounced as a uvular fricative, *χ*, though the historical distinction remains in the orthography) and synchronic spirantization⁷ (e.g.,

⁵ These and other observations about the verbal system were determined by the author based on Bolozky’s (2008) book on verbs in Modern Hebrew.

⁶ This concept has been operationalized through a variety of means, ranging from speaker judgments to computational analyses (e.g., Miller et al. 1990). In the discussion that follows, speaker intuitions guide notions of semantic similarity. To test the predictions in this section, a more rigorous operationalization of semantic similarity would be required.

⁷ Variability in spirantization has also been informally observed. The spirantization rule proposed (stops become spirants post-vocally) seems to exhibit variability. If, indeed, spirantization is subject to sociolinguistic variability, then one of the linguistic factors that is expected to condition its application is whether it is associated with a strongly emergent root.

the voiceless velar stop, *k*, alternates with the voiceless uvular fricative, *χ*, as in *katav* ‘he writes’ and *liχtov* ‘to write’). As a result, in pairs of words such as *liχtov* ‘to write’ and *miχtav* ‘letter’ versus *liχbof* ‘to conquer’ and *maχbef* ‘press (noun)’, all of the words can potentially be written in at least two different ways by speakers starting to learn to write the language (e.g., preliterate children). The prediction of this model is that in the former pair, when one word is misspelled, the other is also likely to be misspelled, whereas in the latter pair the misspelling of one word will not necessarily correspond to the misspelling of the other word.

If a given sequence does come to be associated with a particular meaning (i.e., if a meaningful root emerges), then that sequence can be used to generate new words. Therefore, emergent roots are expected to exhibit productivity, which can be observed as facilitation on generalizability tasks. An experimental paradigm that can test this prediction would involve asking speakers to guess the meaning of a nonce word. If the nonce word contains a strongly emergent root (e.g., the aforementioned *k-d-m*, *k-t-v*, *χ-f-v*), speakers are more likely to provide a more confident guess than if it contains a sequence that does not contain a strongly emergent root (e.g., words containing the aforementioned *d-j-k*, *χ-b-r*, *k-b-f*). Moreover, inter-speaker guesses should have more consistent meanings with strongly emergent roots.

4. CONCLUSIONS. The primary argument presented in this paper is that the Semitic root as exhibited in Modern Hebrew is an emergent cognitive category, possessing the properties of other cognitive categories. This approach is argued to better account for the linguistic patterns observed in languages such as Modern Hebrew.

The problem with formal models, whether root-based or word-based, is that they treat the root as a classical category. As such, since they occupy the same structural positions, sequences such as *k-t-v* and *k-v-f* must either both be treated as a linguistic unit or they must both be treated as not a linguistic unit. Purely formal accounts miss one key observation or another. One issue with treating both kinds of sequences as a meaningful unit is that *k-v-f* does not seem to have a common meaning associated with it, and one issue with claiming that neither one is in the linguistic system is that such an approach misses the generalization that words with *k-t-v* do in fact seem to share a common semantic core.

In contrast, a usage-based approach such as the one developed in this paper accounts for both observations: sometimes a root emerges from a consonantal sequence and behaves as a linguistic unit and sometimes a meaningful root does not emerge. Such an approach explains more of the data and is consistent with findings in other fields, such as cognitive science. The usage-based model makes predictions in fields such as psycholinguistics and historical linguistics, where they are expected to play a role. Adopting such an approach, therefore, has the potential to yield important insights both in linguistics and in related fields.

REFERENCES

- ARAD, MAYA. 2005. *Roots and patterns: Hebrew morpho-syntax*, 63. Dordrecht, The Netherlands: Springer.
- ARONOFF, MARK. 2007. In the beginning was the word. *Language*, 803-830.
- BAT EL, OUTI. 1994. Stem modification and cluster transfer in Modern Hebrew. *Natural Language*

- and *Linguistic Theory* 12:571-593.
- BENMAMOUN, ELABBAS. 2003. The role of the imperfective template in Arabic morphology. *Language Acquisition and Language Disorders* 28:99-114.
- BENNETT, PATRICK R. 1998. *Comparative Semitic linguistics: a manual*. Eisenbrauns.
- BOLOZKY, SHMUEL. 2008. *501 Hebrew verbs* (2nd ed.). Hauppauge, NY: Barron's Educational Series.
- BYBEE, JOAN. 1995. Regular morphology and the lexicon. *Language and Cognitive Processes* 10(5):425-455.
- . 2006. From usage to grammar: The mind's response to repetition. *Language* 711-733.
- . 2010. *Language, usage and cognition* (Vol. 98). Cambridge University Press.
- CHOMSKY, A. NOAM. 1979. *Morphonemics of Modern Hebrew*. New York: Garland Publishing.
- DEUTSCH, AVITAL, RAM FROST, ALEXANDER POLLATSEK, & KEITH RAYNER. 2000. Early morphological effects in word recognition in Hebrew: evidence from Hebrew. *Journal of Experimental Psychology: Learning, Memory and Cognition* 24(5):1238-1255.
- FELDMAN, LAURIE BETH, RAM FROST, & TAMAR PANINI. 1995. Decomposing words into their constituent morphemes: evidence from English and Hebrew. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 21(4):947.
- FROST, RAM, KENNETH I. FORSTER, & AVITAL DEUTSCH. 1997. What can we learn from the morphology of Hebrew? A masked-priming investigation of morphological representation. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 23(4):829.
- HARRIS, ZELLIG. 1941. Linguistic structure of Hebrew. *Journal of the American Oriental Society* 61(3):143-167.
- HOROWITZ, EDWARD. 1993. *How the Hebrew language grew*. KTAV Publishing House, Inc..
- MCCARTHY, JOHN J. 1981. A prosodic theory of nonconcatenative morphology. *Linguistic Inquiry* 12:373-418.
- MILLER, GEORGE A., RICHARD BECKWITH, CHRISTIANNE FELBAUM, DEREK GROSS, & KATHERINE MILLER. 1990. Introduction to wordnet: An on-line lexical database. *International journal of lexicography* 3(4): 235-244.
- PRUNET, JEAN-FRANÇOIS. 2006. External evidence and the Semitic root. *Morphology* 16(1):41-67.
- ROSCH, ELEANOR. 1975. Cognitive representations of semantic categories. *Journal of Experimental Psychology: General* 104:192-233.
- SÁENZ-BADILLOS, ÁNGEL. 1993. *A history of the Hebrew language* (John Elwolde, Trans.). Cambridge University Press. (Original work published 1988).
- TAYLOR, JOHN R. 2003. *Linguistic Categorization*. Oxford University Press.
- USSISHKIN, ADAM. 1999. A fixed Prosodic Theory of Nonconcatenative Templatic Morphology. *Natural Language & Linguistic Theory* 23(1):169-218.
- VERSTEEGH, KEES. 1997. *The Arabic Language*. Columbia University Press.

This article was first published at lacus.weebly.com.





A MEANING HYPOTHESIS FOR *ANY* AND *SOME*

NADAV SABAR

City University of New York, Graduate Center

Abstract: The distribution and semantic contribution of the English forms *any* and *some* are notoriously difficult to pin down. Generative linguists, inspired by the constructs of formal logic, consider both forms to represent natural language manifestations of existential quantification and account for their supposed complementary distribution by classifying them as polarity sensitive (PS) items, whose occurrences are mechanically controlled by their logico-semantic sentential environment. In other cases, where *any* seems to represent universal quantification, it is rendered as a free choice (FC) item, which is not in complementary distribution with *some*, giving rise thereby to two forms of *any*. Proposed here is a unified sign-based account of *any* and *some* according to which each form constitutes a full-fledged expressive device that, by virtue of its meaning, is chosen by language users so as to advance their communicative ends. A semantic substance is hypothesized called Domain of No Particular Things, in which the meaning of *any* is UNRESTRICTED and the meaning of *some* is RESTRICTED. Qualitative and quantitative analyses of attested occurrences of *any* and *some* support this meaning hypothesis.

Key words: Functional Explanation; Sign; Columbia School Linguistics; Polarity Sensitivity; Free Choice

Languages: English

THE PROBLEM ADDRESSED in this paper concerns the semantic contribution and distribution of the English forms *any* and *some*, which have proved notoriously difficult to pin down. In the generative literature, at least since Ladusaw's (1979) influential dissertation, both forms have been hypothesized to represent the existential quantification in logic. Then, each form's unique distribution is accounted for by classifying them into the hypothesized class of Polarity Sensitive (PS) items, where *any* has negative polarity and *some* positive polarity. This classification is meant to account for the supposed contrasts in grammaticality judgments between (1) and (2) on the one hand and (3) and (4) on the other:

- (1) *John read something yesterday.*
- (2) *John didn't read anything yesterday.*
- (3) **John read anything yesterday.*
- (4) **John didn't read something yesterday.*

The classification of the forms as PS items posits formal licensing conditions which determine the surface realization of the existential quantifier. Thus, according to Ladusaw, the two forms are in complementary distribution where *any* surfaces only when it is within the scope of a downward entailing (DE) operator, while *some* surfaces otherwise. A DE operator is, roughly, an operator which allows entailment from sets to subsets. Negation is but one instance of a DE operator; so for example, if John did not read a book it follows that John did not read a novel.

Accordingly, sentence (4) actually has a perfectly grammatical reading if the existential quantifier is interpreted as scoping over negation, thereby positioning *some* outside the scope of the DE operator. The acceptable reading of (4) is rendered 'There is X (say War and Peace) such that John did not read *that*'. The unacceptable reading of (4) is rendered 'It is not the case that there is X such that John read X'. For the latter, narrow-scope reading, it is argued that (2) must be used instead.

There are two central kinds of problems which any PS analysis faces. First, the forms *any* and *some* are not always in complementary distribution, e.g. in interrogatives (e.g., 5) or in the protasis of conditionals (e.g., 6). To complicate matters, in these and numerous other environments, *any* is not even positioned in the scope of a DE operator, at least not in any straightforward way, contrary to expectation.

- (5) *Have you eaten anything / something?*
- (6) *If you see anyone / someone let me know.*

Furthermore, even in negative sentences, the hallmark environment of the PS hypothesis, the forms do not necessarily have complementary distribution. Consider the following example:

- (7) *After many years in which she did not meet someone, she finally decided to have a baby by herself.*

In (7) *some* takes narrow scope with respect to negation, contrary to expectation. Thus the sentence is plausibly rendered 'It is not the case that there is X such that she met X', rather than 'There is X (say, *Bill*) such that she did not meet *him*'. But if the existential here takes narrow scope then *any* should have surfaced. Indeed, *any* would likewise be acceptable here, perhaps giving the utterance an air of desperation. The PS hypothesis fails to account for cases like (7), and generally fails to explain the differences between *any* and *some* in environments where either form may occur.

The second problem is that in many cases *any* clearly does not represent the existential quantifier. This leads proponents of the PS hypothesis to propose two forms of *any* in English, either polysemous or homonymous, where one is negative-polarity-*any* (NPI-*any*) and the other is labeled free-choice-*any* (FC-*any*). The latter is taken to represent the universal quantifier (Ladusaw 1979, Kadmon and Landman 1993, Giannakidou 2011 *inter alia*). Examples of FC-*any* include:

- (8) *Anyone caught damaging this property will be liable for a fine.*

- (9) *I would rather be anywhere but here.*

The label “free choice” is perhaps misleading as there is no straightforward notion of choice involved in such examples. This classification actually originates in Vendler (1967) with examples such as the following:

- (10) *Take any apple.*

In (10) the addressee is granted a choice as to which apple to take, but notice that here it is difficult to maintain that *any* represents the universal quantifier. To compare, the instruction in (11), unlike (10), grants no choice with regard to what to take, as the addressee is told to take all the apples there are. The notion of choice requires a selection to be made, and selection entails exclusion. Thus, there is some inconsistency in combining the notion of free choice with universal quantification.

- (11) *Take every apple.*

Inspired by the Columbia School (CS) linguistics founded by William Diver, this paper proposes a unified semantic analysis of *any* and *some* to fully account for the forms’ distributions. A central tenet of CS linguistics, adopted from Saussure, is that language is not a nomenclature (see Otheguy 2002, Diver 2012). This entails that each language displays its own unique principles of semantic classification, therefore prohibiting the analyst from approaching the study of a particular language with preconceived categories, such as quantification. Indeed, the notions of *quantification* and *scope* originate in logic and are superimposed on natural language, even when, in effect, they fail to solve the distributional problem posed by the forms in question.

Furthermore, the logical analyses of these forms assume rules of formal determination to account for their distribution. Thus, it is argued that an existential quantifier under the scope of negation must come off as *any*, not *some*. This makes the forms’ distribution arbitrary with respect to speakers’ communicative intents; i.e., it is not up to speakers to *choose* a particular form, but rather, speakers are *constrained* to a particular grammatical morpheme given a particular sentential environment.

In CS linguistics, language is considered first and foremost to be a set of communicative tools where the sign, the primary unit of communication, takes central stage. The sign, perhaps the most important contribution of Saussure, is the union of a *signal* with a *meaning*, and to solve a distributional problem it must be shown that a hypothesized *meaning* makes a consistent semantic contribution to the communicative acts within which the form occurs. Thus, rather than assuming that speakers are constrained by supposed formal rules of grammar, it is suggested that speakers *choose* to use particular forms precisely due to the communicative contribution made by their *meanings*.

The meaning hypothesis proposed here for *any* and *some* posits a semantic substance I call The Domain of No Particular Things, in which the meaning of *any* is UNRESTRICTED and the meaning of *some* is RESTRICTED. First, with respect to the semantic substance, this hypothesis predicts that these forms are used only when the speaker/author does not intend to refer to anything in particular. Second, with respect to the value relation within this semantic substance, the hypothesis predicts that *any* is used when no restriction is placed on the domain, i.e., when it is completely irrelevant which thing it might be, while *some* is used to signal that there is an intended restriction on the

domain.

The term “things” in the name of the semantic substance was chosen over the term “referent” because it is precisely the point that *any* and *some* fail to refer, seeing as these forms are used when talking about nothing in particular. Notice this does not mean that there cannot be a referent in the world; there may well be. Still, these forms fail to pick out a referent. As regards to what “thing” might represent, that depends on the case: for instance, in the phrase ‘any book’ the speaker is talking about no particular book. But “thing” is intended as a wide enough term to cover such cases as ‘anywhere’ or ‘somehow’ too.

In order to illustrate how this meaning hypothesis explains the distribution of these forms, consider the following minimal pairs collected from *The Story of Rock* by Carl Belz.

- (12) a. *One of the most important factors [for the decline of folk music], however, was the arrival of the Beatles. When records by the English group appeared in 1964, they generated more excitement than **any** music in the history of rock.* (p. 87)
- b. [In surveying another book:] *More like a fan magazine than a serious survey, the book develops no particular critical position. **Some** music is good because it is honest, some because it is undiscovered, some because its performers are outrageous, some just because.* (p. 241)
- (13) a. *A fascinating aspect of the English groups lay in the fact that their singing generally revealed no trace of an English accent. Instead, they sounded like **any** other rock **artists**, and their Britishness only became apparent during radio and television interviews.* (p. 125)
- b. *Patronage for contemporary art [in San Francisco before the 60’s] was relatively limited, because San Franciscans characteristically devoted their cultural energies to traditional artistic expressions. For **some** artists, this situation was ideal because it enabled them to work outside the high-pressure atmosphere of New York, Los Angeles and other cities. But many artists left because San Francisco offered limited opportunities for public recognition.* (p. 198)
- (14) a. [Talking about the Beatles’ album Sgt. Pepper’s Lonely Hearts Club Band and the experience of listening to it as an album, rather than individual songs:] *Certainly, the record consciously achieves a totality of sound impact that transcends **any** of the individual **songs**.* (p. 139)
- b. *An area in which Rhythm and Blues music has clearly demonstrated its lack of self-consciousness is that of protest lyrics. In spite of the racial awareness that pervades our society and that inspires many white songs, Negro music has devoted surprisingly little attention to these problems. **Some** of the best Rhythm and Blues **songs** of the late sixties concentrate on the subjects which were the concern of Blues singers before the 1960’s, especially on the problems and feelings of people in love: [list of artists and songs comes here].* (p. 188)

To start with the pair in (12), in both (a) and (b) it is beside the point to mention any particular music, and so deployment of the semantic substance Domain of No Particular Things is appropriate. Thus, in (a) the point is not to compare the Beatles to a *particular* group or individual, but rather to elevate the status of the Beatles above *all* other music, whichever it may be – without restriction; and in (b) the point is not to state which *particular* music the author of the reviewed book found good or honest, etc. but rather the point is to illustrate the general superficiality of the reviewed book.

To account for the value distinction between the meaning UNRESTRICTED in (a) and RESTRICTED in (b), observe that in (a) the author describes the magnitude of the Beatles' impact and how it surpassed that of all other music, i.e., no limits or qualifications are placed on which other music it might be. In (b), the author contrasts different kinds of music. The meaning of *some* serves to create limits within the domain of music for it restricts each kind of music that is being discussed based on certain qualifications (such as being commercially successful, etc.). The restriction thus gives rise to subdivisions which allow the contrast to be made.

Turning to (13), again in both cases it is not the point to talk about particular artists. In (a), the author generalizes over all artists from a British origin. Hence, it is irrelevant which particular British artist it is, they all sounded American. The use of the meaning UNRESTRICTED indicates that there are no qualifications regarding which British artists it might be, thereby giving rise to the encompassing statement. In (b) the author is likewise not interested in mentioning any particular artists, but rather in drawing a general picture of what the artistic situation was like in San Francisco at that time. The use of *some* is suitable for (b) because the author is contrasting between two kinds of artists, those who enjoyed the situation and those who did not. Again, the meaning RESTRICTED successfully divides the domain of artists, thereby enabling the contrast.

In (14) the deployment of the proposed semantic substance may initially seem questionable: for the (a) case there clearly are particular songs in the album, and for the (b) case, the author actually gives examples of particular songs. However, when analyzing language as a communicative instrument, the issue is not whether there is or is not a real world referent, but rather whether or not it is the speaker's/author's intended message to refer. I argue that in these cases the author has made the choice to use non-referential expressions for the following reasons. In (a) the author could have written "the record consciously achieves a totality of sound impact that transcends the individual songs", without evoking the semantic substance of no particular song. But what the author is trying to convey is that the whole is more than the sum of its parts. To this end it serves him well to downplay the parts, i.e., the individual songs, by not even referring to them, and instead merely alluding to them as no particular songs. The use of the meaning UNRESTRICTED indicates that it is irrelevant which part of the whole it is, the whole is still greater.

In the (b) case, even though the author has particular songs in mind, songs he explicitly lists, still the point of the passage concerns the description of a historical trend rather than detailing particular songs. Here the meaning RESTRICTED is used since not *all* songs concentrated on the said subject matter, but rather only a subset of them, which calls for the restriction. Notice further that the subsequent list of songs is by no means intended as exhaustive and serves only to exemplify several of the particular songs that made the trend what it was. In this respect the use of *some* creates a build-up in the discourse: first the author introduces "songs" without mentioning any in particular; this serves to delineate the historical trend. Then, as an illustration, he continues to give particular examples.

To further test the hypothesis, I have collected all occurrences of *any* and *some* from three books: Carl Belz's *The Story of Rock*, Frank Baum's *The Wizard of Oz* and Bob Fiengo's *Asking*

Questions: a total of 220 samples of *any* and 206 samples of *some*. Here are three of the predictions I tested with these counts, their rationale and their results. First, I predict that the nouns following *some* will tend to be plural, while the nouns following *any* will tend to be singular. The rationale is as follows. Assuming the meaning of the plural form is MORE THAN ONE, the use of the plural generally requires counting, which in turn requires discreteness (see e.g., Reid 1991). The meaning of *some* goes hand in hand with the required discreteness as RESTRICTED divides a domain and thus creates discrete classes within it. By contrast the meaning UNRESTRICTED fails to draw boundaries and fails to create distinctions within a domain. The prediction is borne out: only 16% of the occurrences of *any* appear in a plural noun-phrase, compared to a whopping 44% of plural *some*.

Another prediction concerns the likelihood of the noun-phrase in question to be an argument as opposed to an adjunct in its clause. The rationale is as follows. Arguments generally provide the central information in the clause, and so the more detailed the knowledge that a given form or expression conveys the more likely it is to be an argument. The subject, in particular, typically represents the topic of the clause, and as such typically assumes a high degree of familiarity with the entity in question. Though neither *any* nor *some* denotes anything in particular, still in order to comprehend an utterance containing *some*, more precise knowledge is demanded of the addressee about whatever is under discussion, for the addressee needs to know where and how to draw the boundaries which the meaning RESTRICTED alludes to. Therefore, I predict that *some* is more likely than *any* to be an argument, and further, amongst the argument cases *some* is more likely than *any* to be a subject. Both predictions are validated: while only 17% of the *any* cases were arguments, 31% of the *some* cases were arguments. Looking only within the argument cases, 45% of *some* arguments, compared to merely 33% of *any* arguments, were subjects.

For the third prediction, I counted how many of the occurrences of *some* and *any* are used in describing a non-occurrence. I predict that *any* will skew toward non-occurrence more often than *some*. The rationale is that when talking about a non-occurrence, it is effective to sweep across all cases without discrimination. Thus, say, to effectively deny that I read at all, I can report “I didn’t read any book”, as *any* makes it easy to encompass all possibilities fully; indeed it is completely irrelevant which book it is, i.e. there are no restrictions or qualifications on which book it is, seeing as I didn’t read at all. 40% of the *any* cases, compared to only 5% of the *some* cases, were non-occurrences. Note that this shows only that *any* has a *tendency* to appear in the context of negation, as 60% of its occurrences were not in such a context at all.

We lastly turn to an explanation of the distribution of *any* and *some* in some of the cases widely discussed in the generative literature. Consider again the supposed unacceptability of *any* in positive assertions like (3), repeated below:

(15) **John read anything yesterday.*

From a communicative perspective, the use of *any* in (3) may sound odd *if* the speaker intends to report a normal reading event, in which, necessarily, a particular thing was read. The speaker may employ *some* if it is not to the point to fully identify or refer to what was read. Though it is not said what was read, still the meaning RESTRICTED would suggest it was a specific thing. However, the use of *any* conveys that it is completely irrelevant what reading material it was, and this is appropriate only in certain special contexts. Thus, for example, I may say that as a child, she was so erudite that she read *anything*. Here *any* becomes acceptable, and we can understand the speaker’s motivation for evoking the meaning UNRESTRICTED: as a child she loved reading so much that she read without discrimination; she read, irrelevant of which reading material it was.

Or, one may express one's desperate state of hunger in saying "I was so hungry, I ate anything." Again, despite being a plain positive sentence, the use of *any* is appropriate, as it serves to express how hungry he was, so much so that it was irrelevant to him what he ate – he did not impose any qualifications or restrictions on what he would eat. It is worth noting again that whether there is a real world referent is not the issue. In the last example, clearly there were particular things which he ate. But the intended message is not merely to report *what* he ate, but rather to express his famished state.

We can also make sense now of the use of *some*, rather than *any*, in example (7), repeated below:

- (16) *After many years in which she did not meet someone, she finally decided to have a baby by herself.*

While there is no specified person whom the speaker has not met, it is not the case that it is irrelevant who it might have been; she was looking to meet an individual who has certain qualification rendering him fit for marriage and having children with. Therefore, the meaning of *some*, which restricts the domain, is suitable in this context. That's also why we have the expression "that special someone" and not "?that special anyone". The latter is odd because the limitlessness of *any* is inherently inconsistent with the meaning of the word "special".

Turning to so called FC-*any*, observe that in such cases as (8) – (10), repeated below, the speaker denotes nothing in particular and, further, places no restrictions on which particular thing it might be.

- (17) *Anyone caught damaging this property will be liable for a fine.*
 (18) *I would rather be anywhere but here.*
 (19) *Take any apple.*

In (8) we have a warning, which talks of possible occurrences, rather than reporting an actual event. Accordingly, there is no particular person to whom reference is intended. As the warning applies to all individuals without qualifications, its issuer uses *any* so as to place no restrictions on its domain of application. In (9) the speaker may be expressing desperation stemming from her current location. The speaker expresses that, irrelevant of which place it might be, so long as it is not where she is now, she would rather be there. Lastly (10) is a most generous offer, as it places no restrictions on which apple the addressee may take. Likewise, when a magician instructs "Pick any card," then what is conveyed is that it is irrelevant which card it is; all equally qualify for picking.

To conclude, this paper proposes a unified meaning hypothesis for *any* and *some* which successfully accounts for these forms' full distributional properties. Both forms are used when it is not the speaker/author's intention to talk about anything in particular. The meaning of *any*, UNRESTRICTED, makes this form appropriate to use in contexts where it is irrelevant which thing it might be, thereby allowing for fully encompassing or blanket statements. By contrast, the meaning of *some*, RESTRICTED, is appropriate in contexts where a restriction is needed on which thing it might be, for instance in order to create a contrast. Thus, the distribution of these forms is accounted for based on speakers' choices in communicative acts; speakers choose to use certain forms in certain circumstances due to the contribution made by the forms' meanings.

REFERENCES

- DIVER, WILLIAM. 2012. Substance and Value in Linguistic Analysis. In *Language: Communication and Human Behavior, the Linguistic Essays of William Diver*, ed. A. Huffman and J. Davis, 1–18. Leiden: Brill.
- GIANNAKIDOU, ANASTASIA. 2011. Positive Polarity Items and Negative Polarity Items: Variation, Licensing, and Compositionality. In *Semantics: An International Handbook of Natural Language Meaning* (second edition), ed. C. Maienborn, K. von Stechow, and P. Portner, 1660–1712. Berlin: Mouton de Gruyter.
- KADMON, NIRIT, & FRED LANDMAN. 1993. Any. *Linguistics and Philosophy* 16, 4: 353–422.
- LADUSAW, WILLIAM. 1979. *Polarity Sensitivity as Inherent Scope Relations*. University of Texas PhD diss.
- OTHEGUY, RICARDO. 2002. Saussurean Anti-nomenclaturism in Grammatical Analysis: A Comparative Theoretical Perspective. In *Signal, Meaning and Message: Perspectives on Sign-based Linguistics*, ed. W. Reid, R. Otheguy, and N. Stern, 373–403. Amsterdam / Philadelphia: John Benjamins.
- REID, WALLIS. 1991. *Verb and Noun Number in English: A Functional Explanation*. London: Longman.
- VENDLER, ZENO. 1967. Each and Every, Any and All. *Mind* 71, 282: 145–160.

This article was first published at lacus.weebly.com





MORPHOSYNTACTIC CHANGE AND STABILITY IN FRANCO-AMERICAN FRENCH

LOUIS STELLING

Massachusetts College of Liberal Arts

Abstract. The morphosyntactic consequences of language shift in three Franco-American communities in southern New England are explored. In Woonsocket, RI, and Southbridge, MA, immigration ceased around 1930 and the Francophone populations are homogeneous with respect to their origins in western Quebec. In Bristol, CT, language shift has been slowed by renewed immigration from Quebec, New Brunswick, and Northern Maine.

Recent research suggests that Franco-American French is resistant to grammatical changes that are typical in situations of language restriction and shift that have been found in other varieties of North American French. The question is further explored here through a reexamination of auxiliary variation in compound past tense formation and two additional variable contexts. Examples were taken from Southbridge and Woonsocket for auxiliary variation and for variation between the use of synthetic and analytic futures. For examination of variation in gender agreement in descriptive adjectives, examples were taken from Southbridge, Woonsocket, and Bristol.

Keywords: Sociolinguistics, morphosyntactic variation, language shift, grammatical conservatism, North American French

Languages: Franco-American French, Quebec French, Franco-Ontarian French, Acadian French, Cajun French

IN THIS PAPER, we will explore morphosyntactic variation and grammatical conservatism in Franco-American French (FAF) in southern New England. Fox and Charbonneau (1998) hypothesized that regional variation in FAF is primarily based on two factors: the degree to which language shift has progressed in a given location and the geographic origins of the community. However, recent research suggests that FAF is resistant to grammatical changes that are typical in situations of language contact, restriction, and shift that have been noted in other North American varieties of the language (Fox 2005; Stelling 2008, 2011). In a study of auxiliary variation in the *passé composé* in Southbridge, MA, and Woonsocket, RI, Stelling (2011) notes that the variable

bears all of the social meaning it has in non-obsolescing varieties.

We will further explore the question by reexamining auxiliary variation in the *passé composé* and additional variable morphosyntactic contexts. Examples were drawn from Southbridge and Woonsocket again for variation between use of the synthetic (inflected) future (ex: *je ferai...*) and of the analytic (periphrastic) future (ex: *je vais faire...*). For examination of variation in gender agreement in descriptive adjectives, examples were drawn from Southbridge and Woonsocket as well as Bristol, CT. For each of the morphosyntactic contexts, a variable rule analysis was conducted with GOLDFARB X.

1. TARGET COMMUNITIES. According to Brault (1979: 75) there are four principal elements which make Franco-Americans ethnically distinct from all other groups: French Canadian birth or ancestry; French as a mother tongue; Catholicism; and residence in New England. However, language shift and cultural assimilation have created a current situation which complicates this definition (see Fox 2007; Fox et al. 2007; Fox and Smith 2005; Roby 2000). In the following pages, the term Franco-American refers to French Canadian and Acadian immigrants and their descendants living in the Northeastern United States.

Led by Cynthia Fox (SUNY Albany) and Jane Smith (University of Maine, Orono), *A Sociolinguistic Investigation of Franco-American French* was the first and only large scale investigation of French in New England. The study was funded by the National Science Foundation from 2001 to 2004. A sum total of 275 Franco-Americans were interviewed in the eight locations. The four communities in northern New England are Berlin, NH, and Biddeford, Waterville, and Van Buren, ME. In this paper, we will limit our discussion to data drawn from the four communities in southern New England: Bristol, CT, Gardner and Southbridge, MA, and Woonsocket, RI.

Interviews were guided by use of a questionnaire to gather information on topics such as the acquisition, use and transmission of French, and access to francophone culture and media. A translation task (English to French) was also used to elicit structures which are infrequent in conversation. For more information, see Fox and Smith (2005).

In Bristol, CT, francophone immigrants did not begin arriving until the second half of the 19th century and their numbers never allowed them to achieve majority status or to establish more than one French parish and school (Clouette and Roth 1985; Josephson 1974; Moore 1967). The heterogeneity of the Franco-American populations has been reinforced and language shift slowed by renewed immigration from Quebec, New Brunswick, and Northern Maine that began after World War II and extended into the early 1970s. Franco-Americans from the second wave of immigration in Bristol trace their origins to the Beauce region of Quebec, to northwestern New Brunswick, the Saint John Valley in northern Maine, and to a variety of other Franco-American communities (Bagaté et al. 2004).

In Woonsocket, RI, and Southbridge, MA, the francophone immigration of the nineteenth and early twentieth centuries drew relatively homogenous populations to both locations. In each community, the majority of families came not only from the same rural region of western Quebec, but from many of the same small towns (Brault 1986). In 1900, Franco-Americans already made up 60% of the populations of both Southbridge and Woonsocket (Brault 1986: 54-55). Complex French language infrastructures, including mutual aid societies, social clubs, various sources of media, parish organizations such as bilingual schools, and opportunities to use French in the workplace provided support for the language in both places (Brault 1986).

Although a shift to English has advanced farther in Southbridge than in Woonsocket, language

shift has been advancing in both communities since the immigration ceased in 1930. French is no longer commonly used at work. Currently, French is used mainly between family members and friends, and even these domains have been greatly penetrated by English. In other words, there is no longer a single domain that is reserved exclusively for French in either community (Fox and Smith 2007, 2005).

2. QUALITATIVE VARIATION: AUXILIARY CHOICE IN THE *PASSÉ COMPOSÉ*. Prescriptive grammar dictates that *être* be used with seventeen intransitive verbs of motion in compound past tenses, such as the *passé composé*. Otherwise, *avoir* is used. We conducted a binomial analysis to measure the contribution of factors to the use of *avoir* with the 17 intransitive verbs which are prescribed to take *être* in “Standard French”.¹

Each instance of the *passé composé* was coded for seven characteristics of the speaker (age, sex, community of residence, socioeconomic status, number of generations in the U.S., frequency of French use, and schooling in French) and four internal constraints based on the linguistic context (grammatical person and number, the existence of a transitive homonym, the possibility of an adjectival use of the past participle, and frequency of the main verb).

A total of 1,194 tokens were included in the study of conversation data. These tokens were produced by 57 informants, 25 from Southbridge and 32 from Woonsocket. Our results show that when taken together, Franco-Americans from Southbridge and Woonsocket use *avoir* with a frequency of 34%.

The only linguistic constraint found to be significant is the presence of a transitive homonym. The results presented in **Table 1** indicate that the variable appears to bear all of the social meaning it has in non-obsolescing varieties. Six of the seven external factors (all but community of residence) were found to have a significant effect. The most likely speakers to use *avoir* (factor effects above 0.500) are daily users of French, those below the age of 70, second generation speakers, men, members of the working class, and those who never had French as a sole medium of instruction.

Factors by Group	# Tokens	% <i>avoir</i>	Factor Weight
Use of French			
Daily	425	54	0.616 (+)
Often	203	30	0.411 (-)
Rarely	317	21	0.412 (-)
Never	54	15	0.430 (-)
Age Group			
<60	246	56	0.668 (+)
60's	234	49	0.669 (+)
70's	595	20	0.390 (-)
80 +	119	25	0.229 (-)

¹ The 17 verbs included in the analysis were : *aller, entrer, passer, monter, tomber, arriver, naître, venir, sortir, retourner, descendre, rester, partir, mourir, devenir, revenir, and rentrer*.

Generations in the U.S.			
1	227	37	0.265 (-)
2	595	44	0.611 (+)
3	320	13	0.470 (-)
Sex			
Men	441	32	0.596 (+)
Women	753	34	0.443 (-)
Socioeconomic Status			
Working Class	602	49	0.573 (+)
Professional	592	18	0.426 (-)
French in School			
French as a sole medium of instruction	228	08	0.194 (-)
French as L2	163	18	0.541 (+)
Bilingual	478	46	0.573 (+)
Bilingual and French as L2	325	42	0.619 (+)
Transitive Homonym			
Yes	188	75	0.862 (+)
No	1,006	25	0.415 (-)
Total	1,194	34	p=0.015

Table 1. Contribution of significant factors to the spread of *avoir*

Stelling (2008, 2001) has reported that grammatical conservatism in Southbridge and Woonsocket is the result of strong prescriptive norms within the communities and of the compartmentalization of French to situations where monolingual English speakers are not present. In the case of auxiliary variation in the *passé composé*, grammatical simplification (expected during language shift) may indeed have been slowed by grammatical conservatism.

3. QUANTITATIVE VARIATION: ANALYTIC FUTURE ~ SYNTHETIC FUTURE. Examples were drawn from Southbridge and Woonsocket again for variation between the use of the synthetic (inflected) future (*je ferai...*) and of the analytic (periphrastic) future (*je vais faire...*). Unlike auxiliary variation in the *passé composé*, neither future variant is overtly prescribed nor proscribed.

We performed a binomial multivariate analysis in order to measure the contributions of social and linguistic factors to use of the analytic future. A total of 969 tokens were produced by a total of 52 informants, 20 from Southbridge, 32 from Woonsocket during the conversation portion of

the interview. The external constraints included seven speaker characteristics: age, sex, community of residence, socioeconomic status, number of generations in the U.S., frequency of French use, and schooling in French. The internal constraints included six linguistic factors: grammatical person, grammatical number, negation, the presence of '*quand*,' contingency on an 'if' ('*si*') clause, and adverbial specification of time.

Factors by Group	# Tokens	% analytic	Factor Weight
Age Group			
Younger (<60)	571	89	0.610 (+)
Older (60+)	398	86	0.345 (-)
Sex			
Men	237	91	0.633 (+)
Women	732	86	0.456 (-)
Negation			
Affirmative clause	896	94	0.590 (+)
Negative clause	73	12	0.011 (-)
Presence of '<i>quand</i>'			
Not present	941	88	0.513 (+)
Yes: future in main clause	5	80	0.165 (-)
Yes: future in relative clause	23	74	0.139 (-)
Adverbial Specification			
No	868	90	0.532 (+)
Yes	101	64	0.248 (-)
Total	969	88	p = 0.031

Table 2. Contribution of significant factors to the use of analytic future

As a linguistic consequence of language shift, one may expect periphrastic/analytic forms to replace inflected/synthetic forms. Speakers from Southbridge and Woonsocket used the analytic future with greater frequency (88 %, N= 121) than has been reported for Acadian French (47 %) and for Canadian French in Montreal, Quebec City, and the Ottawa-Hull region (approximately 80 %) (King and Nadasdi, 2003, p. 332). These results suggest that the change from synthesis to analysis in expressions of the future is more advanced in these Franco-American communities than it is in Canada.

Results from the multivariate analysis (**Table 2**) showed that of the seven external constraints, only age and sex had a significant influence on the appearance of the analytic future. Although

these results were consistent with a change in progress, this change cannot be said to follow the usual up/down social staircase of change found in monolingual settings, as social class and education in French were not found to be significant. The small amount of socially based variation suggests that it is rather language shift that is accelerating grammatical change in expressions of futurity. Aside from age however, none of the social factors which have a specific relationship to language shift (community of residence, number of generations in the U.S. and frequency of use of French) were found to be significant. The driving forces behind this change in progress seem to be primarily linguistic. Three of the six internal constraints examined (negation, the presence of ‘*quand*,’ and an adverbial time reference) proved to be significant predictors of variation.

4. GENDER AGREEMENT VARIATION IN DESCRIPTIVE ADJECTIVES. Fox and Stelling (2010) identified sixty-four speakers (Bristol=20; Southbridge=17, Woonsocket=27) who used a variable predicate adjective that referred to a feminine noun in the conversation portion of the interview. Of these 28 men and 36 women whose ages ranged from 22 (BR12) to 92 years old (SO11), 25 individuals (39%) produced evidence of simplification taking place in their speech.

Variable adjective	Type of adjective	Total used with feminine referent	Total showing feminine morphology	Total showing simplification	Rate of agreement
<i>canadien(ne)</i>	3	72	67	5	93%
<i>français(e)</i>	1	42	38	4	90%
<i>franco-américain(e)</i>	3	21	19	2	90%
<i>content(e)</i>	1	27	24	3	89%
<i>certain(e)</i>	3	31	27	4	87%
<i>petit(e)</i>	2	29	24	5	83%
<i>intéressant(e)</i>	1	15	11	4	73%
<i>gentil(le)</i>	1	7	5	2	71%
<i>important(e)</i>	1	5	3	2	60%
<i>surpris(e)</i>	1	21	8	13	38%
<i>prêt(e)</i>	1	3	1	2	33%
Total	3 types	273	227	46	83%

Table 3. Eleven variable adjectives

Within this general category of adjective, our examples fall into three types. In Type 1 adjectives (ex: *surpris(e)*) the masculine-feminine contrast is based solely on the nature of the final segment (vowel versus vowel plus oral consonant). Type 2 and Type 3 adjectives involve additional, predictable vowel alterations. In Type 2 (ex: *petit(e)*) the final vowel that marks the masculine variant is subject to laxing, as conditioned by the nature of the syllable (closed versus open). In Type 3 (ex: *canadien(ne)*) the final segment that marks the masculine variant is a nasal vowel that is subject to obligatory denasalization in syllables that are closed by a nasal consonant. In this type, the final consonant that marks the feminine variant is also nasal.

We performed a variable rule analysis of the contribution of significant linguistic and extralinguistic factors to adjectival discord (evidence of simplification) when a variable predicate adjective referred to a feminine noun in the conversation data. For the binomial analysis, from the 273 tokens used by Fox and Stelling (2010) we excluded 18 tokens for which a piece of

information on one or more extralinguistic factors was missing. Among the 255 remaining tokens, agreement was made in 211 cases (82.7 %).

Significant Factors	Factor effect	Discord	Agreement	Total	Agreement
Community of Residence					
Bristol, CT	0.237(-)	5	62	67	92.5 %
Southbridge, MA	0.700(+)	14	41	55	74.5 %
Woonsocket, RI	0.560(+)	25	108	133	81.2 %
Secondary/Postsecondary Education – Exposure to French					
L1 setting	0.269(-)	7	97	104	93.3 %
L2 setting	0.661(+)	31	97	128	75.8 %
No French	0.694(+)	6	17	23	73.9 %
Type of adjective					
1 (V vs. V + oral C)	0.724(+)	29	82	111	73.9 %
2 (V vs. lax V + oral C)	0.427(-)	5	23	28	82.1 %
3 (nasal V vs. oral V + nasal C)	0.299(-)	10	106	116	91.4 %
Total	p=0.003	44	211	255	82.7 %

Table 4. Contribution of significant factors to adjectival discord

The eleven variable adjectives (discussed above, listed in **Table 3**) were coded for two linguistic and nine extralinguistic factors. The linguistic factors were the type of adjective (Type 1, Type 2, or Type 3, as described above) and the number of the referent (singular vs. plural). The nine extralinguistic factors were community of residence, wave of immigration, number of generations in the US, age, sex, socioeconomic status, language(s) of instruction in primary school, and exposure to French in secondary and/or postsecondary education. **Table 4** demonstrates that among the factors considered, one linguistic factor (type of adjective) and two extralinguistic factors (community of residence and exposure to French in secondary/postsecondary education) were found to have a significant effect on simplification in favor of masculine forms when a variable predicate adjective refers to a feminine noun.

Type 1 adjectives strongly favor (factor effect = 0.724) simplification toward use of masculine adjectival forms to refer to a feminine noun in predicate position. For these adjectives, the masculine-feminine contrast is based solely on the nature of the final segment (vowel versus vowel and oral consonant). The factor effects of adjectives of Type 2 (0.427) and Type 3 (0.299) show that adjectives which involve additional, predictable vowel alterations do not favor simplification.

Residence in Southbridge (where language shift has progressed to a greater extent than in the other communities) very strongly favors adjectival simplification (factor effect = 0.700). In Woonsocket, the factor effect (0.560) also favors simplification, but to a lesser degree. Residence in Bristol (factor effect = 0.269) was found to disfavor adjectival simplification strongly. Although Bristol is the community where language shift has been slowed by renewed immigration, surprisingly, the Franco-Americans from the pre-1930 *Grande Migration* are the most conservative speakers (agreement rate = 96%) of any of the Francophones in Bristol.

Exposure to French in secondary/postsecondary education also was found to have a significant effect in the conversation data. Unsurprisingly, a lack of exposure to French in secondary or

postsecondary education (factor effect = 0.694) favors simplification of gender agreement in the adjectival system. Interestingly, exposure to French in a second/foreign language (factor effect = 0.661) also favors simplification. In this factor group, exposure to French in L1 settings (factor effect = 0.269) strongly favors maintaining gender agreements when a predicate adjective refers to a noun that is morphologically feminine.

5. DISCUSSION AND CONCLUSION. Results suggest that the analytic future has replaced the synthetic future as the default option in FAF, while the synthetic future has become increasingly limited to aspectual or modal contexts. While the amount of social variation observed is minimal at best, these findings do not differ from those observed in Quebec and Ontario, where social variation also takes a backseat to linguistic forces. While language shift may play a role in this change, which is now more advanced in New England than in Canada, it is not necessarily the primary force at work. In the case of auxiliary variation in the *passé composé*, grammatical simplification (expected during language shift) may have been slowed by grammatical conservatism. The variable bears all of the social meaning it has in non-obsolescing varieties.

In the case of descriptive adjectives used in predicate position, we examined evidence that a simplification is in progress in favor of using masculine adjectival forms even when the referent is morphologically feminine. However, results from other forces, such as education in French, may be serving as a buffer to counteract the linguistic effects of language shift (grammatical simplification in progress). Findings from the conversation data confirm that the simplification favoring use of masculine forms is in progress, especially when no predictable vowel alterations (nasality, laxing, etc.) are made between masculine and feminine adjectival forms. Exposure to French in the classroom (L1 setting) may be serving as a buffer to counteract the grammatical simplification in progress.

Southbridge and Woonsocket are traditional (homogenous) Franco-American communities with respect to their geographic origins and immigration history but both show a great degree of socio-economic stratification. Both communities contained multiple French parishes with bilingual primary schools. Linguistic conservatism is the result of strong prescriptive norms within the communities and the compartmentalization of French to situations where monolingual English speakers are not present (Stelling 2008).

The following exchange between two Southbridge informants (an 80 year old man, SO13, and his 77 year old wife, SO-S6) illustrates the presence of conservative language attitudes among Franco-Americans in the community:

SO13: I'm no expert for sure but I think there's only one French language. I don't think there's Parisian French and Southbridge French. French is French ... except we use a lot of slang.

SO-S6: There's a lot of families that murdered the French ... Oh he murders the French.

SO-13: Aw, you do too.

SO-S6: No, I learned French better than you did...

SO-S6: There were some parents that murdered the French language. They could not speak English and their French was horrible.

The conservative language attitudes among Franco-Americans in southern New England, especially those whose families arrived before 1930, and their exposure to the standardized varieties of the language (through school, travel and media) may make the communities unique when compared to other cases of language shift. The variety may be resistant to certain qualitative simplifications which might be labeled by parents, teachers and other speech monitors in the communities as “bad” French. Franco-Americans may be abandoning the language rather than continuing to use it in an “altered” or “simplified” form, which they see as “bad” French. This may help explain why in Woonsocket, the variety appears to have undergone few syntactic simplifications or restructurings, which one may expect in a situation of language shift (Fox 2005).

Fox and Charbonneau (1998) hypothesized that regional variation in FAF is primarily based on two factors: the degree to which language shift has progressed in a given location, and the geographic origins of the community. Fox and Charbonneau compared borrowings from English in Highgate-Franklin to results from Cohoes, where language shift was more advanced when fieldwork was conducted. Indeed, borrowings from English were more frequent in Cohoes. The authors also found that the majority (59%) of borrowings among informants in Cohoes were idiosyncratic, whereas in Highgate-Franklin, the majority (54%) of borrowings were shared by multiple informants. Fox and Charbonneau concluded that these differences reflected the diminished use of French in Cohoes when compared to Highgate-Franklin.

The analyses discussed above show that it may be necessary to refine the hypothesis of Fox and Charbonneau, because the morphosyntax of FAF provides a somewhat different picture of the linguistic consequences of the shift to English. Data from southern New England provide strong evidence that certain grammatical developments are favored by language shift while others are not. A distinction made between qualitative developments, such as auxiliary use in the *passé composé*, and quantitative developments, such as synthetic ~ analytic expression of the future tense, could be useful for scholars investigating other cases of shift where conservative language attitudes are present and where restricted speakers have access to a standardized version of the language. In such situations, pressure to conform to the standard language may block certain qualitative changes.

REFERENCES

- BAGATE, MARIAME, JODIE LEMERY, VERONIQUE MARTIN, LOUIS STELLING AND NADJA WYVEKENS. 2004. Attitudes linguistiques et le transfert à l'anglais dans une communauté franco-américaine non-homogène: Le Cas de Bristol (Connecticut). *Francophonies d'Amérique*. 17: 17-33.
- BRAULT, GÉRARD J. 1979. Le français en Nouvelle-Angleterre. In *Le Français hors de France*, ed. Albert Valdman, 75-92. Paris: Champion.
- . 1986. *The French Canadian heritage in New England*. Hanover: University Press of New England.
- CLOUETTE, BRUCE, & MATTHEW ROTH. 1985. *Bristol, Connecticut: A Bicentennial History: 1785-1985*. Canaan, NH: Phoenix Publishing.
- FOX, CYNTHIA A. 2005. La Variation syntaxique à Woonsocket: ébauche d'une grammaire du

- Franco-Américain. In *Français d'Amérique: approches morphosyntaxiques*, ed. Patrice Brasseur and Anika Falkert, 39-48. Paris: L'Harmattan.
- . 2006. La variation régionale en français franco-américain: les formes verbales à la troisième personne du pluriel. *Revue canadienne de linguistique appliquée*. 37.2: 55-72.
- . 2007. Franco-American Voices: French in the Northeastern United States Today. *The French Review* 80.6: 1278-1292.
- FOX, CYNTHIA, & LOUIS STELLING. 2010. Language Variation and Change? Gender Agreement in Franco-American Adjectives. Paper presented at the annual conference of the Canadian Association of Applied Linguistics. Concordia University, Montréal, PQ. June 2010.
- FOX, CYNTHIA, GENEVIEVE FORTIN, VERONIQUE MARTIN, & LOUIS STELLING. 2007. L'Identité franco-américaine: tendances actuelles dans le sud de la Nouvelle-Angleterre. *Canadian review of American Studies*. 37.1: 23-48.
- FOX, CYNTHIA, & JANE SMITH. 2007. Recherches en cours sur le français franco-américain. *GLOTTOPOL* 9: 120-137.
- FOX, CYNTHIA, & JANE SMITH. 2005. La situation du français franco-américain: aspects linguistiques et sociolinguistiques. In *Le français en Amérique du Nord*, ed. by Albert Valdman, Julie Auger, and Deborah Piston-Halton, 117-142. Québec: Presses de l'Université Laval.
- FOX, CYNTHIA, & LOUISE CHARBONNEAU. 1998. Le Français Franco-Américain: Nouvelles perspectives sur les communautés linguistiques. *Francophonies d'Amérique*. 8: 65-84.
- GATINEAU, FELIX. 1919. *Histoire des Franco-Américains de Southbridge, Massachusetts*. Framingham, MA: Lakeview Press.
- JOSEPHSON, BERYL P. 1974. *A History of Bristol, Connecticut*. M.A Thesis. Central Connecticut State College.
- KING, RUTH, & TERRY NADASDI. 2003. Back to the future in Acadian French. *French Language Studies*. 13: 323-337.
- MOORE, ESTHER GILMAN. 1967. *History of Gardner, Massachusetts 1785-1967*. Gardner MA: Hatton Print.
- ROBY, YVES. 2000. *Les Franco-Américains de la Nouvelle-Angleterre: Rêves et réalités*. Sillery: Septentrion.
- STELLING, LOUIS. 2007. Attitudes linguistiques et transfert à l'anglais à Southbridge (Massachusetts). *Francophonies d'Amérique* 23-24: 231-251.
- . 2008. *Morphosyntactic change and language shift in two Franco-American communities*. PhD Diss., University at Albany, State University of New York.
- . 2011. The effects of grammatical proscription on morphosyntactic change: Auxiliary variation in Franco-American French. *Arborescences: revue d'études françaises*. 1. Retrieved from <http://www.erudit.org/revue/arbo/2011/v/n1/1001942ar.html>

This article was first published at lacus.weebly.com.



LACUS FORUM
Journal of the Linguistic
Association of Canada and the
United States

VOLUME 40

NUMBER 2, 2020

CONTENTS



- | | | |
|----|---|----|
| 6. | ENGLISH OR CHINESE: WHICH IS A MORE COMPOUNDING LANGUAGE
<i>Hui Yin</i> | 1 |
| 7. | A MODEL OF SENTENCE PRODUCTION AND UNDERSTANDING
BASED ON FORMAL AND SEMANTIC EXPECTATIONS
<i>Y. Sergey Antonov, Dmitry Bogushevich
& Irina Ivanova-Mitsevich</i> | 14 |
| 8. | THE SEMANTICS OF RELATED PREPOSITIONS:
THE CASE OF <i>BENEATH, BELOW, AND UNDER</i>
<i>Renison Gonsalves</i> | 25 |
| 9. | THE ADAM/ALAN HYPOTHESIS: THE MIRAGE OF MACHINE TRANSLATION
<i>Robert Orr</i> | 32 |



ENGLISH OR CHINESE: WHICH IS A MORE COMPOUNDING LANGUAGE?

HUI YIN

Xi'an-Jiaotong Liverpool University

Abstract: Both English and Chinese are compounded easily; however, it is not quite known quantitatively which of the two has more compounds. This study examines compounds in Lu's English-Chinese Parallel Corpus (2007) and the corpus results show that there are many more compounds in Chinese than in English. This research also analyzes different types of English and Chinese compounds and reveals that the reason for Chinese being a more compounding language is that there are lexicalization differences in English and Chinese.

Keywords: Compound, Chinese, English, lexicalization

Languages: English, Chinese

IN ENGLISH AND CHINESE, compounding is frequent and productive (Nicoladis & Yin 2002). Compounding is perhaps the most important means of word formation in Chinese, since inflectional and derivational affixes in Chinese are very limited. Compounding is also an important means of forming lexical items in English (Pan 2010). Although both English and Chinese tend to be compounded easily, it is not quite known quantitatively which of the two has more compounds. This present study seeks to fill this gap by examining English and Chinese compounds and the distribution of different types of compounds found in Lu (2007). The corpus results indicate that there are many more compounds in Chinese than in English. Different types of English and Chinese compounds were analyzed and the reasons for Chinese having more compounds than English were explored.

1. CHINESE AND ENGLISH COMPOUNDS. This section discusses the definition, headedness and types of Chinese and English compounds. The discussion of types of compounds is not meant to be an

exhaustive category list of compounds in the two languages, but a short summary of those types of compounds most discussed in the literature.

1.1. CHINESE COMPOUNDS. Li & Thompson claim that Chinese compounds must be polysyllabic, must have “certain properties of single words, and can be analyzed into two or more meaningful elements, or morphemes, even if these morphemes cannot occur independently in modern Mandarin” (1981:46). According to this definition, then, *feiji* ‘fly-machine—plane’ is a compound because it acts like a single word in that it refers to a single object. On the other hand, the combination of *he cha* ‘drink tea’ cannot be considered as a compound because it lacks the properties of a single word. Instead, it is a phrase consisting of a verb plus a noun as its direct object.

Chao (1968) also maintains that Chinese compounds should be combinations of two or more morphemes or words to form one word. In Chao’s definition, Chinese compounds could be those in which the constituents are bound morphemes rather than suffixes. However, Chao’s criteria for defining compounding (1968) cannot be applied to English, since English compounds basically consist of at least two bases. In order to conduct comparative studies of English and Chinese compounding, compounds are defined in this paper as a “combination of at least two potentially free forms” (Aikhenvald 2007:24). Aikhenvald’s definition of compounding (2007) is applicable to both English and Chinese. Therefore, in this study *huoche* ‘train (fire-vehicle)’ is considered a compound, since it consists of two free forms, but *meili* ‘beautiful (beautiful-pretty)’ cannot be considered a compound, since one of its forms is a bound morpheme.

In compounding morphology, ‘head’ is defined in structural terms as the element of a compound which determines the category of the compound as a whole. For example, the Chinese compound *lan mei* ‘blueberry’ from *lan* ‘blue’ and *mei* ‘berry’ is a noun, not an adjective. *Mei* is a kind of berry and is the head because it determines the category of the compound. In Chinese, compound nouns are basically right-headed, that is, the right constituent is the head while compound verbs are often left-headed (Nicoladis & Yin 2002).

In Chinese, nominal compounds are most common and most productive in Mandarin Chinese. According to Huang (1998), nominal compounds account for about 53% of all compounds in Chinese.

The compounding process of linking N(noun) and N together to form a nominal compound to designate an object is a productive and creative one. In many cases, compounds of this type are right-headed and in which one noun serves as a kind of modifier denoting place, time, equipment, container, etc. for the head noun. Examples in (1) illustrate subordinate (NN) nominal compounds.

- (1) *jidan* ‘chicken egg’
feng-che ‘windmill (wind-vehicle)’

Another source of subordinate nominal compounds comes from A(adjective) N(noun) compounds. In such compounds, adjectives precede the head nouns and serve as modifiers for the rightmost nouns as (2) shows.

- (2) *huangyou* ‘butter (yellow oil)’
xiangliao ‘spice (fragrant material)’

Verb compounds are the most common ones next to nominal compounds. There are two basic

semantic relations between the parts of verb compounds. They can generally be classified into two kinds: resultative verb compounds and parallel verb compounds. Resultative verb compounds refer to structures in which one or more verbs serve as the complement of a head verb (Xiao & McEnery 2004). In resultative VV compounds, the second verb indicates a result of the action of the first verb. In English, the resulting state is usually indicated by an adjective or prepositional particle, in short, by an atemporal relational predication (Langacker 1987), while in Chinese, as in (3), the resulting state is often indicated by a complement verb or adjective which usually follows the head verb.

- (3) *tui dao* ‘push down (push fall)’
 da po ‘break (hit break)’

Parallel verb compounds are those compounds in which two verbs are synonymous or signal the same type of predicative notions. The constituents of verb compounds of this kind are of the same syntactic category. Parallel verb compounds themselves share the semantic and syntactic properties of their components (Li & Thompson 1981:69-70). For example, if the constituents are transitive verbs, the compound is also a transitive verb such as *ti-huan* ‘replace (replace-change)’. Examples in (4) are cases of parallel verb compounds:

- (4) *goumai* ‘buy (purchase buy)’
 piaoliu ‘drift (drift flow)’

Besides compound nouns and compound verbs, in Chinese there are other types of compounds such as adjective compounds, as in (5), and adverb compounds as in (6).

- (5) Compound adjective
 haokan ‘good looking (good look)’
 mahu ‘careless (horse tiger)’

- (6) Compound adverb
 fanzheng ‘anyway (reverse right)’
 zaowan ‘sooner or later (early late)’

1.2. ENGLISH COMPOUNDS. In the current paper, English compounds are also defined as consisting of two or more potentially free forms (Aikhenvald 2007:24). Thus, the same criteria have been adopted in defining both English and Chinese compounding in the present study. English compounds may be words in their own right, to form new lexical items. This is illustrated in (7) where two bases are separated by a hyphen:

- (7) *shop-assistant* *snow-man*
 room-mate *shoe-string*

English orthography is not consistent in representing compounds since they are sometimes written as single words (*earthquake*, *goldfish*, *sunburn*), sometimes with a hyphen between its composite parts (*easy-going*, *moon-light*, *ink-pot*) and sometimes as separate words (*wisdom teeth*,

air field, life insurance) (O'Grady & Guzman 1996). Spelling, therefore, is not a reliable indicator of compound status.

However, in terms of pronunciation there is an important generalization to be made. Compounds normally have one word which receives the primary stress while the other word is relatively less prominent. This is one of the important properties to distinguish compounds from phrases. Consider the stress pattern of the compound nouns in (a) and that of the noun phrases containing the same words in (b):

- (8) a. *greenhouse* 'an indoor garden'; *blackboard* 'a chalkboard'
 b. *green house* 'a house painted green'; *black board* 'a board which is black'

Typically, in compound nouns primary stress falls on the first word as in (8a). However, in noun phrases like (8b), both content words receive primary stress and neither has its stress suppressed.

An interesting property of English compounds is that they are headed. This suggests that one of the words which make up the compound is syntactically dominant. With regard to English compounds, the head is normally the item on the right hand of the compound. The syntactic properties of the head are passed on to the entire compound (O'Grady & Guzman 1996). Thus, *easychair* is a noun because its rightmost component is a noun; *spoonfeed* is a verb because *feed* is also a verb; and *worldwide* is an adjective, just as *wide* is. Basically, English compounds are right-headed.

In English, compound nouns are most frequently used and most productive in all types of English compounds. These compounds mainly consist of two elements, the second of which is usually a noun. As a rule, the first element has the main stress and qualifies the second (Zandvoort 1966). Common types of nominal compounds include the following:

- (9) a. noun and noun *desktop, millstone, newspaper, blood-test, housewife*
 b. adjective and noun *fast-food, greenhouse, red type, easychair, blueprint*
 c. verb and noun *cut-throat, pickpocket, rattlesnake, watchdog*

Compound adjectives mainly consist of two elements. The second element is usually an adjective while the first element can be a noun, an adjective, an adverb or other parts of speech.

- (10) a. noun and adjective *trustworthy, homesick, stone-cold, knee-deep*
 b. adjective and adjective *bitter-sweet, red-hot, icy-cold, dead-alive*
 c. adverb and adjective *evergreen, under-ripe, all-important, overnight*

Compound verbs mainly fall into three groups: a. those with an adverb for their first element; b. those occurring as participles only; c. those formed by shortening from compound verbal nouns in -er or -ing, so called back-formation (Zandvoort, 1966).

- (11) a. adverb and verb *outlive, overcome, undermine, uphold,*
 b. adverb and V+ ing (V+en) *good-looking, easygoing, hard-working,*
heartbroken, frost-bitten
 c. back-formation *caretake, type-write, lip-read, house-hunt*

Besides compound nouns and compound verbs, there are other types of compounds such as compound pronouns (e.g. *anyone*) and compound adverbs (*anywhere*).

2. METHODS. This study mined English and Chinese compounds from Lu's English-Chinese Parallel Corpus (2007) to explore types and frequency distributions of compounds. This parallel corpus contains 215,713 English-Chinese parallel sentences. There are about three million English words and five million characters of corresponding Chinese translation. The parallel corpus contains both spoken and written texts which were sampled from different themes such as daily life, fiction, news reporting. It was mainly designed for comparative English and Chinese studies in terms of lexicon, grammar, structure and others.

The corpus data for this study were obtained exclusively from Lu's English-Chinese Parallel Corpus (2007). The full corpus can be accessed online using the web-based concordancer provided with the online version of the corpus. In this study, in order to better represent the parallel corpus, two different methods were used to search the corpus. Thus, one sub-corpus was built with a search of pronouns as key words and another sub-corpus was established with a search of punctuations to see if both yield similar results. In building the sub-corpus with the research of pronouns, five personal pronouns were used as key words for searching the data in the corpus: 'he', 'she', 'it', 'I' and 'we'. In both English and Chinese, normally, these five words themselves do not form compounds with other words or morphemes. In English or Chinese, some words might be easily compounded with other words in one language while their counterparts in the other language might not be easily compounded. For example, Chinese motion verbs such as *lai* 'come' or *qu* 'go' are very frequently compounded with other words to indicate direction or result, but that is not the case in English. It seems that selecting pronouns as key words for the corpus search is a good choice in order to get unbiased data.

I searched the five pronouns as key words using the web-based concordancer. The search results in the concordancer were copied to a spreadsheet and saved. If the number of saved hits which were obtained using a particular key word search was greater than 20, I randomized the results to get 20 hits and saved them to another spreadsheet. Thus, the 100 hits which I obtained in this way (5 key pronouns multiplied by 20 tokens) formed one sub-corpus for my study. Another sub-corpus also contains 100 hits, built with the search of the four punctuations: period, comma, exclamation mark and question mark. Since period and comma are used much more frequently than exclamation mark and question mark, I obtained 40 hits each for period and comma and 10 hits each for exclamation mark and question mark after the randomization of the search results. These two sub-corpora form the basis of my corpus analysis and I assume that the 200 hits obtained (with 100 sentences for each language and for each sub-corpus) represent this parallel corpus and reflect the two languages generally.

Each hit obtained is a complete sentence for each language. Each sentence which contains the key word (pronoun) or the punctuation mark in the query hit was individually examined to see if it contains compounds. Once the compounds had been identified, these compounds were categorized according to their part of speech. Therefore, compounds can be classified into different types and they can be nominal, verbal, adjectival compounds or others. Then, the number of morphemes for each compound was also identified for each language for comparative studies.

3. RESULTS. In order to get an idea of how frequently compounds occur in English and Chinese, the proportion of compounds was calculated. For the 100 English and Chinese sentences in each sub-corpus obtained from the parallel corpus, the proportion of compounds was obtained for each

language by dividing the total number of words in the compounds identified by the total number of words in the 100 sentences.

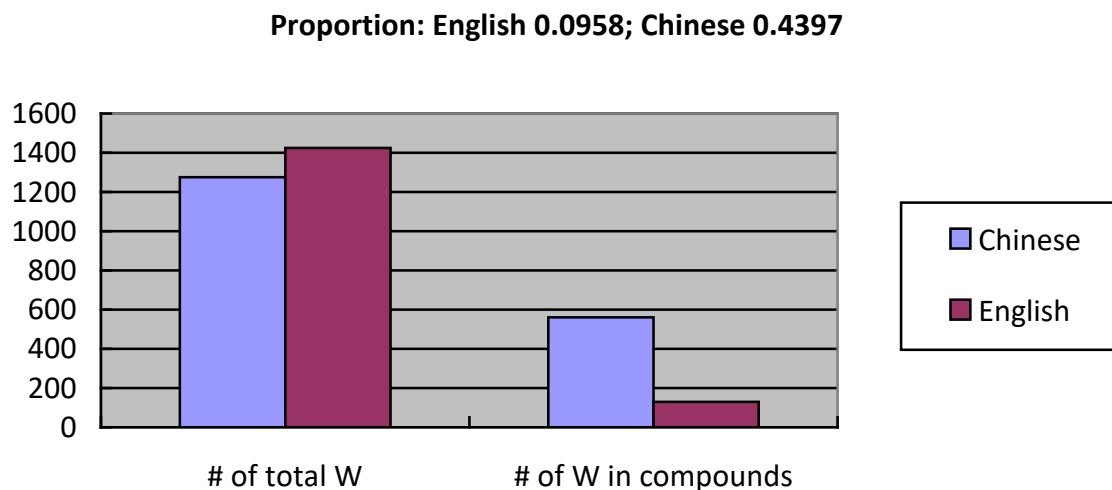


Figure 1 Total number of words, number of words in compounds and proportion of compounds in Chinese and English in *the sub-corpus from the search of pronouns*

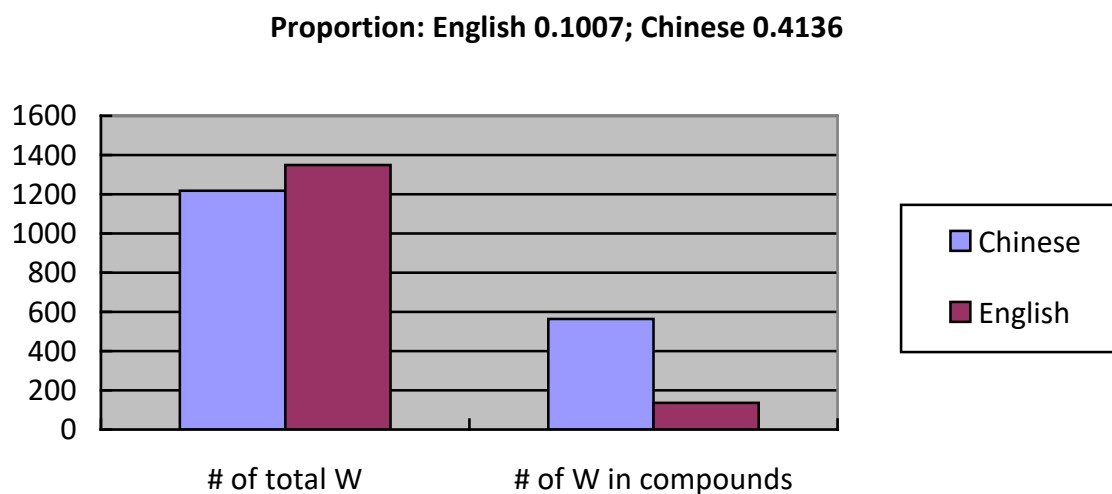


Figure 2 Total number of words, number of words in compounds and proportion of compounds in Chinese and English in *the sub-corpus from the search of punctuation marks*

Figures 1 and 2 show the number of words in the compounds identified, the total number of words in the 100 sentences, and the proportion of compounds in the 100 sentences for each language and for each sub-corpus. It can be found from **Figure 1** and **Figure 2** that the proportion of words of Chinese compounds in the 100 Chinese sentences is much higher than the proportion of words of English compounds in the 100 English sentences. The corpus results indicate that more than 40 words per 100 are used as compounds in Chinese; however, there are only about 10 words per 100 used as compounds in English. It's interesting that the two sub-corpora yielded very similar and consistent results. With the two different search methods to obtain the two sub-corpora, the

convergent evidence obtained indicates that Chinese does have many more compounds than English.

In the rest of the paper, the data in the two sub-corpora were collapsed for analysis and the total number of the sentences in the two sub-corpora for each language is 200. **Figure 3** shows the number of compounds in the 200 sentences in each of the two languages. It can be seen from **Figure 3** that on average there are nearly 5 compounds per sentence in Chinese and that under one compound per sentence in English.

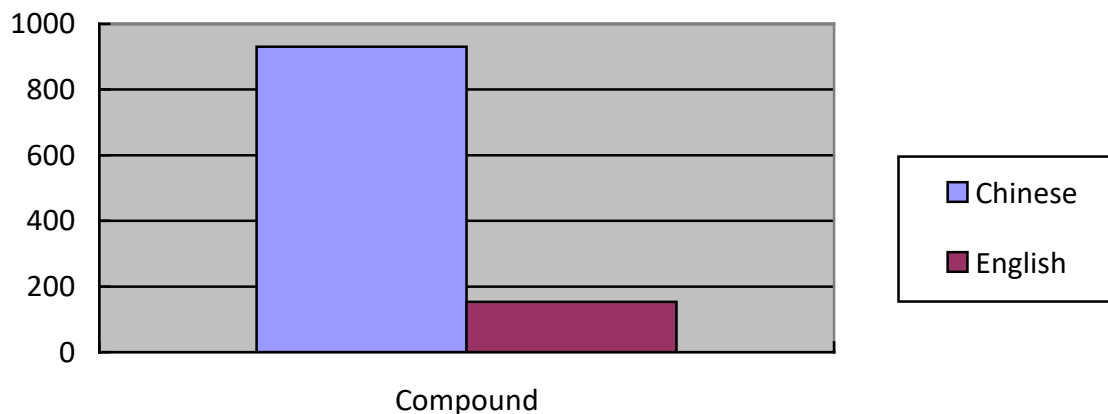


Figure 3. *The number of compounds in Chinese and English*

Complex compounds of more than two morphemes are possible in both English and Chinese. Among them, tri-morphemic compounds seem to be most productive. Quite often tri-morphemic compounds consist of a morpheme added to a compound of two morphemes. In English, the larger compound *flower school bag* consists of one bi-morphemic compound *school bag* and an additional morpheme *flower*. In Chinese, for example, the tri-morphemic compound *dian-nao zhuo* ‘computer desk (electricity-brain desk)’ contains a bi-morphemic compound *dian-nao* ‘computer (electricity-brain)’ and a third morpheme *zhuo* ‘desk’. Compounds with more than three morphemes also exist in both English and Chinese (e.g. *sun-flower school bag*; *shou ti dian-nao* ‘laptop computer (hand carry electricity brain)’). **Figure 4** shows the frequency of English bi-morphemic and tri-morphemic compounds and compounds with more than three morphemes in the 200 English sentences retrieved from the parallel corpus.

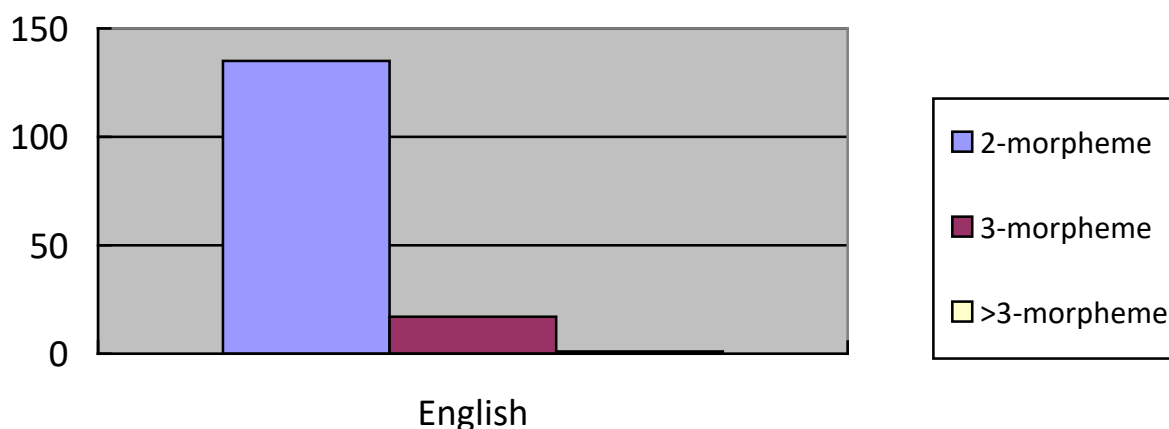


Figure 4. *Frequency of English bi-morphemic and tri-morphemic compounds and compounds with more than three morphemes*

Figure 4 indicates that most English compounds contain two morphemes, though there are some tri-morphemic compounds. There are about 7 times more bi-morphemic compounds than tri-morphemic compounds in English for the 200 sentences obtained from the corpus. Although there is one compound with four morphemes, there is no compound with more than four morphemes found in the 200 sentences. **Figure 5** shows the frequency of Chinese bi-morphemic and tri-morphemic compounds and compounds with more than three morphemes in the 200 Chinese sentences retrieved from the parallel corpus.

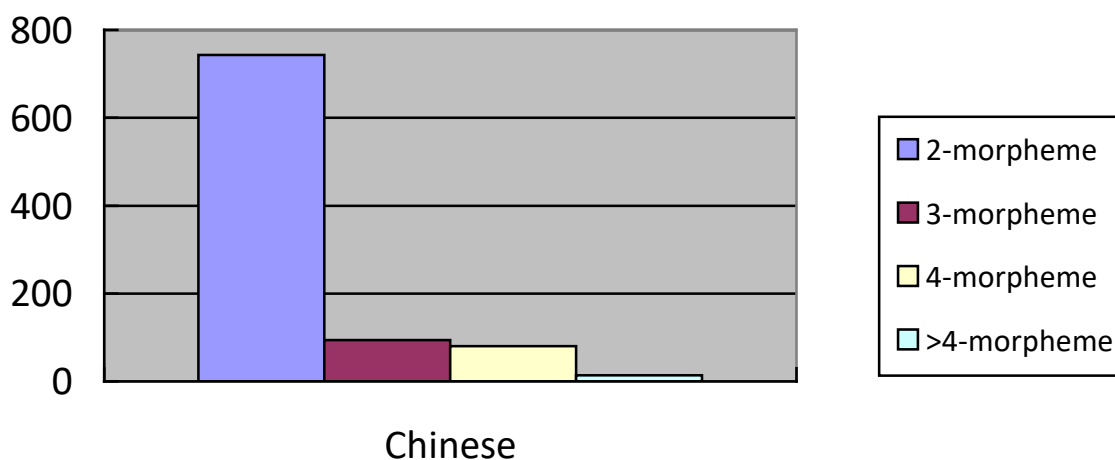


Figure 5. *Frequency of Chinese bi-morphemic and tri-morphemic compounds, compounds with four morphemes and compounds with more than four morphemes*

Like English, bi-morphemic compounds in Chinese are the most frequent. Tri-morphemic compounds were also found in both languages. In English, 11.1 percent of English compounds are tri-morphemic while about 10 percent of Chinese compounds are tri-morphemic. Unlike English, where compounds with more than three morphemes were very rare in the 200 English sentences,

compounds with four morphemes were found to be not uncommon in Chinese. Very often words in Chinese contain two morphemes. When two words in Chinese are compounded to form a large lexical structure, it is likely that a compound with four morphemes will come into being. In Chinese, compounds with five or more morphemes seem to be infrequent. In the 200 Chinese sentences sampled from the parallel corpus, there are only 14 instances of compounds which contain more than four morphemes.

According to part of speech, compounds were grouped into different categories in this study. **Table 1** lists the frequency of different types of English compounds in the 200 sampled English Sentences.

Noun	106
Verb	7
Pronoun	18
Adjective	3
Adverb	11
Preposition	4
Auxiliary	3
Conjunction	1

Table 1. *Frequency of different types of English compounds*

Table 1 indicates that the majority of compounds in English are nominal. Compound pronouns (e.g. anyone) and compound adverbs (e.g. anywhere) are more frequent than other types except compound nouns (e.g. post office). However, compound verbs (e.g. withstand) are not frequent in English at all. **Table 2** displays the frequency of different types of Chinese compounds in the 200 sampled Chinese Sentences.

Noun	394
Verb	286
Pronoun	20
Adjective	77
Adverb	113
Preposition	13
Auxiliary	10
Conjunction	18

Table 2. *Frequency of different types of Chinese compounds*

It can be seen from **Table 2** that compound nouns (e.g. *zujin* ‘rent fee’) are the most frequent type of compound in Chinese, as in English. Unlike in English, compound verbs (e.g. *ting dao* ‘hear (listen reach)’ in Chinese are also very frequent. In addition, Chinese compound adjectives (e.g. *re xin* ‘enthusiastic (hot heart)’) and compound adverbs (*you shi* ‘sometime (have time)’) are not uncommon. **Table 2** also shows that compound pronouns (e.g. *mou ren* ‘someone (some

person)') are not rare in Chinese either.

4. DISCUSSION. The corpus results show that there are many more compounds in Chinese than in English. In terms of types of compounds, in English only compound nouns are frequently used, while in Chinese both compound nouns and compound verbs appear frequently. The main reason for Chinese being a more compounding language is that there are lexicalization differences in English and Chinese.

One of the differences in verbal lexicalizations is that many Chinese action verbs need a complement to indicate result, but that is not the case in English (Yin 2010a:428).

- (12) *wo sha le zhu* (*keshi meisha-si*)
 I kill ASPECTUAL pig (but notkill-die)
 * 'I killed the pig but it didn't die'

In (12) the first clause means I performed the action with the intention of killing and the second indicates that the action did not achieve the goal.

The English verb *kill* used to gloss *sha* does not really correspond in meaning. A sentence gloss like 'I killed the pig but the pig didn't die' is really contradictory in English but incorrectly represents the non-paradoxical Chinese original. The original meaning is that 'I performed the action with the intent to kill, but the pig didn't die'. English verbs such as *kill*, *open*, *kick* are generally construed to refer to a simplex action of the fulfillment type and they specify the attainment of a certain final state (Talmy 2000:222).

In Chinese, the concept covered by a typical English verb such as *kill* is divided into two parts: the final outcome and an action performed with the intent to lead to that outcome. The unitary concept of an English verb often has a counterpart in Chinese two-part conceptualization expressed by a verb and a complement, forming a compound (Talmy 1985; 2000).

Another lexicalization difference is that English uses different lexical items to indicate action and result while Chinese uses a different strategy to indicate result (Yin 2010b:5). A verb like *kan* 'direct one's gaze' only encodes the meaning of looking, without indicating whether the looking has led to perception. When Chinese speakers want to convey the meaning that the action has taken place and also results have been achieved, they need to add verbal complements to form compounds. In expressing the meaning equivalent to English 'see', Chinese uses two verbal morphemes: one is *kan* 'look' and the other is *jian* 'perceive'. In English the strategy for conveying the result reflects different lexicalizations. It does not add resultative complements to action-only verbs but uses entirely new verbs, to indicate the action-phase or the result-phase as in *look* vs. *see*.

In nominal lexicalizations, Chinese often uses two-word compounds to convey the meaning expressed by one word in English. For example, in Chinese the compound *zhentou* 'rest head' is expressed in the lexeme 'pillow' in English (Li & Thompson 1981). More examples in which one word in English is expressed by a bi-morphemic compound in Chinese are provided in (13).

- | | | | |
|------|-----------------|-----------------------|-------------------|
| (13) | <i>Chinese</i> | <i>morpheme gloss</i> | <i>English</i> |
| | <i>qiche</i> | gasoline vehicle | <i>car</i> |
| | <i>daren</i> | big person | <i>adult</i> |
| | <i>lunchuan</i> | wheel boat | <i>ship</i> |
| | <i>daxue</i> | big school | <i>university</i> |

Another difference in nominal lexicalizations is that Chinese often uses a center word to build a group of related words while English tends to use different lexical items. In Chinese, *ren* means ‘person’ while *nan-ren* ‘male-person’, *nv-ren* ‘female-person’ and *da-ren* ‘big-person’ mean *man*, *woman* and *adult* respectively in English. Here, the group of words share something in common and they are all *ren* ‘person(s)’. In this kind of lexicalization in Chinese, the second morpheme is shared by a group of related words and is the head of such compounds. There are also cases in which the first morpheme is shared by a group of bi-morphemic compounds. For example, in the group of words: *shouzhi* ‘finger (hand point)’, *shouxin* ‘palm (hand heart)’, *shoubei* ‘back of the hand (hand back)’, *shoubi* ‘arm (hand arm)’, *shouwan* ‘wrist (hand wrist)’, the first morpheme *shou* ‘hand’ is shared. Chinese speakers tend to find something in common among a group of things and build vocabulary around the shared morpheme to form bi-morphemic compounds.

In Chinese, words have a strong preference for a disyllabic phonological form. Word formation in Chinese seems to interact with phonology, producing forms that fit into a two-syllable pattern (Lin 2001:82-84). Besides compounds in which the morphemes are put together more or less for semantic reasons, there are template-driven creations that contain two morphemes of identical or similar meaning as shown in (14).

(14)	<i>Chinese</i>	<i>gloss</i>	<i>English</i>
	<i>baogao</i>	report report	<i>report</i>
	<i>shengyin</i>	sound sound	<i>sound</i>
	<i>zhandou</i>	fight struggle	<i>fight</i>

In English, like compounding, affixation is one of the important means in word formation. Chinese has very few prefixes or suffixes. What English achieves by adding affixes to form new or morphologically more complex words, quite often Chinese expresses by means of additional morphemes to form compounds as illustrated in (15).

(15)	<i>Chinese: compound</i>	<i>gloss</i>	<i>English: base with an affix</i>
	<i>zimu</i>	character screen	<i>subtitle</i>
	<i>qianting</i>	dive ship	<i>submarine</i>
	<i>zixingche</i>	automatic run vehicle	<i>bicycle</i>
	<i>sanlunche</i>	three wheel vehicle	<i>tricycle</i>
	<i>quxiaozige</i>	cancel qualification	<i>disqualify</i>

5. CONCLUSIONS. This study mined English and Chinese compounds in Lu’s English-Chinese Parallel Corpus (2007) and the corpus results show that there are many more compounds in Chinese than in English. The corpus findings also indicate that the distributions of Chinese and English compounds are different. Both English and Chinese, compound verbs are frequent in Chinese but they are not common at all in English. It has been found from the corpus that bi-morphemic compounds are the most frequent type of compound in both Chinese and English. Tri-morphemic compounds are the second most frequent type of compound in both languages. While there is only one English compound of more than three morphemes found in the 200 sentences sampled, about 10 percent of Chinese compounds have been found to be compounds which contain four or more morphemes.

Chinese morphemes are compounded more frequently, and the corpus findings clearly indicate that Chinese, rather than English, is a more compounding language. The fact that Chinese has

many more compounds than English is largely due to their differences in lexicalization. In Chinese, many action verbs need to be compounded with their complements to indicate result, but that is not the case in English. In nominal lexicalizations, Chinese frequently uses compounds of two-morphemes to convey the meaning expressed by one word in English. In addition, Chinese words have a strong preference for a disyllabic phonological form, many of which are bi-morphemic compounds. Chinese has very limited inflectional and derivational morphology and needs to rely much more on compounding than English in word formation. Thus, the same meaning of an English affix and its base is often expressed as a bi-morphemic compound in Chinese. These lexicalization differences contribute greatly to the fact that Chinese is a more compounding language than English.

REFERENCES

- AIKHENVALD, ALEXANDRA Y. 2007. Typological distinctions in word-formation. In *Language Typology and Syntactic Description. Volume III: Grammatical Categories and the Lexicon*, T. Shopen, ed., 1-65. 2nd ed. Cambridge: Cambridge University Press.
- CHAO, YUEN REN. 1968. *A Grammar of spoken Chinese*. Berkeley: University of California Press.
- HUANG, SHUANFAN. 1998. Chinese as a headless language in compounding morphology. In *New Approaches to Chinese Word Formation*, J. Packard, ed. Berlin: Mouton de Gruyter.
- NICOLADIS, ELENA, & HUI YIN. 2002. The role of frequency in Acquisition of English and Chinese compounds by bilingual children. In *BUCLD 26 Proceedings*, B. Skarabela et al. (eds.) 441-452. Somerville, MA: Cascadilla Press.
- LANGACKER, RONALD W. 1987. *Foundations of Cognitive Grammar. Vol. 1, Theoretical prerequisites*. Stanford: Stanford University Press.
- LI, CHARLES N. & SANDRA A. THOMPSON. 1981. *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: University of California Press.
- LIN, HUA. 2001. *A Grammar of Mandarin Chinese*. Munich, Germany: Lincom Europa.
- LU, WEI. 2007. *English-Chinese Parallel Corpus*. <http://www.luweixmu.com/ec-corpus/index.htm>
- O'GRADY, WILLIAM, & VIDEA P. DE GUZMAN. 1996. Morphology: The Analysis of Word Structure. In *Contemporary Linguistics: An Introduction*, W. O'Grady, M. Dobrovolsky & F. Katamba (eds.). UK: Addison Longman Limited.
- PAN, WENGUO. 2010. *Introduction to Comparative Studies of English and Chinese*. Shanghai: Commercial Press.
- TALMY, LEONARD. 1985. Lexicalization patterns: Semantic structure in lexical forms. In *Language typology and syntactic description: Vol. 3. Grammatical categories and lexicon*, T. Shopen (ed.). 36-149. Cambridge: Cambridge University Press.
- . 2000. *Toward a cognitive semantics*. Cambridge, MA: MIT Press.
- XIAO, RICHARD, & TONY MCENERY. 2004. *Aspect in Mandarin Chinese: A corpus-based study*. [Studies in Language Companion Series 73.] Amsterdam: John Benjamins.
- YIN, HUI. 2010a. The so-called Chinese VV compounds—a continuum between lexicon and syntax. In *Proceedings of the 2010 Canadian Linguistics Association Annual Conference*, Melinda Heijl, (ed). Montreal: Concordia University, Montréal.

- . 2010b. A corpus-based comparison of satellites in Chinese and English. In *Using Corpora in Contrastive and Translation Studies*, Richard Xiao, (ed.). 416-434. Newcastle, UK: Cambridge Scholars Publishing.
- ZANDVOORT, R. W. 1966. *A Handbook of English Grammar*. 4th ed. London: Longmans.

This article was first published at lacus.weebly.com.





A MODEL OF SENTENCE PRODUCTION AND UNDERSTANDING BASED ON FORMAL AND SEMANTIC EXPECTATIONS

Y. SERGEY ANTONOV
Kros. Ltd.

DMITRY BOGUSHEVICH
Minsk State University

IRINA IVANOVA-MITSEVICH
Minsk State Linguistic University

Abstract: This paper presents a brief survey of a new approach to analysing sentence meaning based on an assumption that its semantic sphere comprises two aspects: the representation of a certain state of affairs and the manner in which this state of affairs is modeled by the sentence. We assume that the meaning of the sentence is a result of correlating these two spheres and is created by a number of rules regulating this correlation. Some of these rules for English are described in the paper. Several terms need clarification. The “denotation” or “denotational sphere” is a part of a picture of the world. The “situation” is a reflection of the state of affairs represented in a sentence. The “significational sphere” is the logical manner of creating the sentence structure and shows how the denotational sphere might be presented in a sentence. The “proposition” is the significational reflection of a situation.

Keywords: sentence, meaning, denotation, signification, situation, proposition, state of affairs

Languages: English

1. GENERAL DESIGN OF THE MODEL. We consider that a sentence is a sign and its semantics is a reference to some state of affairs, and furthermore, that we can treat it as a model. From this it follows that the semantic sphere of a sentence should include what is reflected, or its denotational part, and how this is reflected, or its significational part. The denotational part is a fragment of our picture of the world, that picture being specific for each culture. The significational part is the structure that interprets the model in a logical way and is common to all human beings (Outline 1997). We posit that the number of significational structures or propositions is limited, while the structures of the denotational sphere or situations are virtually unlimited, because their number grows with the development of human experience. Thus, the propositions and the situations cannot

be isomorphic. Furthermore, there must be some rules that determine the correlation between a certain proposition and a certain situation. One proposition may be correlated with a number of situations having different structures, and, vice versa, one and the same situation may be reflected in different propositions having different structures. The proposition formed around the predicate “*break*” might, for example, be connected with the description of a situation wherein something disintegrates into small fragments under the impact of some force. For example:

- (1) *John broke a windowpane with a stone.*

But the same verb organising the same proposition might be used to describe other situations, for example:

- (2) *John broke her heart with his rude words.*

We may immediately see that the structure of a sentence, its proposition, is predicted by the verb, and perceiving the verb *to break* we anticipate that a sentence might include a direct object and also possibly an instrumental object with the preposition *with*. On the other hand, if we find the word “*heart*” in the position of the direct object we do not expect physical instruments or tools in the position of instrumental object. This means that there might be some connection between expectations aroused by the predicate and expectations initiated by other words in the sentence. But it is also clear that these expectations do not coincide with or depend upon each other, but cooperate in producing what might be named “the semantic configuration of the sentence” (Ivanova-Mitsevich 2009). We can conclude that these means of cooperation can be discovered and that we can develop models for correlating propositions and situations for sentence production. But before developing such models we have to describe propositions and situations separately.

2. PROPOSITIONS. Propositions are treated as logical structures dependent upon predicates. The predicates of propositions determine the number and functions of their arguments. Thus, the structure of propositions can be deduced from specific features of predicates. As logical studies and semantic studies of verbs show, all propositions might be divided into four classes depending upon two overlapping binary properties. These are the hierarchy of arguments and the activity of the relations in the proposition.

The binary property “hierarchy” exists in two variants. First is the directed dependence of the arguments, starting from the first argument, e.g.:

- (3) *Oscar wrote a word on the blackboard with chalk.*

In this sentence the arguments of the hierarchical proposition are in the following dependence: *Oscar uses a piece of chalk to write a word on a blackboard.* Or another example:

- (4) *Howard has several houses.*

In this sentence the order of arguments is also fixed – first *Howard* and then *houses*. In English, if the proposition of a sentence is directed or hierarchical, it is impossible to change positions of the arguments without losing at least the initial meaning or even all meaning. This is true for languages having no cases. But in the case languages we cannot change cases freely. For example,

it is impossible to say:

- (5) **Many houses have Howard.*

Or the sentence suffers severe stylistic changes, as in:

- (6) *A word wrote Oscar on the blackboard.*

The other variant of this is absence of hierarchy, for example, in the sentence:

- (7) *Lisa looks like Mary.*

If the predicate has no directed relation to the arguments, we may change their positions, for example:

- (8) *Lisa looks like Mary = Mary looks like Lisa.*

It's obvious that these sentences exert different influences upon the listeners. But as it was said before, the signification or else, the propositions, show different approaches of the speaker to the same state of affairs and thus different influences.

The other property, the property of activity, also has two variants: the dynamic and the static. A dynamic predicate indicates that the proposition names something developing in time, for example:

- (9) *George recites a poem.*

Here we may introduce into the sentence adverbial modifiers of force and temporal measure, e.g. such words as *loudly*, *already*. Static propositions describe anything not developing and thus cannot permit the use of adverbials of force and temporal measures, for example:

- (10) *Lucien Tesniere is the author of valence theory.*

It is impossible to insert the adverbial modifiers mentioned above in sentence (10).

Each predicate must be qualified according to both properties, and as a result, we find four classes of propositions:

a) directed and dynamic, as in

- (11) *Edgar eats a pie.*

b) directed and static, as in

- (12) *This museum contains medieval paintings.*

c) non-directed and dynamic, as in

- (13) *Francis meets Charles.*

d) static and non-directed, as in

(14) *Irene resembled Gwendolin.*

Each of these types of proposition possesses a specific number of arguments which have specific features.

Dynamic and directed propositions may have five arguments in which the force is presented as flowing from the first argument to the final. The arguments are: agent (Ag), instrument (In), patient (Pt), factitive (Ft) and beneficiary (Bn). It should be noted that in actual sentences not all arguments have to be represented, either because the speaker does not consider it necessary, or because the structure of the situation does not have components that might fill the argument positions. The only position that is always represented is that of the agent:

(15) *Caroline (Ag) cuts bread (Pt) for her grandfather (Bn) into thin slices (Ft) with a sharp knife (In).*

Static and directed propositions have only two arguments: initiation, from which the relation starts (Int) and patient (Pt), in which the relation ends:

(16) *Earnest (Int) has a sports car (Pt).*

Omission of arguments in this type of proposition is impossible, at least in English.

Non-directed and dynamic propositions may comprise three arguments: agent, patient and counter-agent (CAg). For example:

(17) *Katherine (Ag) discussed the new dress (Pt) with Ann (CAg).*

Static non-directed propositions possess two arguments: initiation (Int) and counter-initiation (CInt). For example:

(18) *Jeffrey (Int) resembles Douglas (CInt).*

For a detailed description of the propositions and procedures for identifying types of propositions and arguments see (Kozlova 1988, or Outline 1997).

3. TYPOLOGY OF SITUATIONS. Structures of situations for each culture are elicited from vocabulary definitions of verbs of appropriate languages. We used explanatory dictionaries for English, mostly the Oxford dictionary and Webster's dictionaries (for a description of procedures for modeling situation structures see Ivanova-Mitsevich 2009). When we began to employ the idea of two structures in the semantic sphere of sentences, we believed that it was impossible to predict and classify situations, because unlike propositions, their structures do not depend upon human beings. However, after we had analysed approximately twelve types of situations, we found that they do have a number of common features, permitting us to systematise them and, moreover, we identified certain properties that made it possible even to predict some of the situational structures.

These properties are: first, the number of relations existing among participants of the situations; second, the manner in which these relations exist; third, the existence or absence of force; fourth, the existence or absence of hierarchy among the participants of situations.

All situations we have analysed have values according to the properties cited in the previous paragraph. The number of relations found in the situational structures might be one or more. One relation can be found in such static states of affairs as possession, inclusion and such dynamic situations as movement, creation or destruction. We call such situations simple. If situations include more than one relation, they can be further divided into subgroups, depending upon the manner in which these relations are included in the situation. Multi-relational situations can be divided into two broad subgroups: complicated and complex. In complicated situations all the relations connect participants that are necessary to actualise the state of affairs. For example, a situation of exchange, in which you find the relation between the giver and the object given, between the giver and the recipient, and between the recipient and the object received. All these elements are absolutely necessary for giving or receiving something.

Complex situations might be considered as hierarchical structures including several situations within one matrix. This subgroup might be further divided into at least three types. The first type is characterised by the fact that the matrix situation includes one of the participants (usually the result) of another situation. For example, the situation of reading presupposes that the object read is the result of the situation of writing. Other participants of the situation of writing are not necessarily represented in the situation of reading. Though since these two situations are inter-related, the doer of the situation of writing might be presented in the sentences modeling the situation of reading. For example: *Nicholas reads Oscar Wilde*, where the result of writing is substituted by the author of the text(s) read by Nicholas.

Two other types are structured so that the matrix situation includes the whole of one or more other situations, for example, the situation of information, or compulsory situations. In these situations the informative element presupposes that the information might be a description of some state of affairs, i.e. some other situation. There might be also a situation which embraces several situations and connects them in a sort of chain, for example, the situation of nourishment or eating. This is evident from the definition of the verb “to eat”: *to put food in the mouth, chew if necessary, and swallow* (Webster 2002).

Different types of situation structures may differently influence the surface structure of sentences. For example, there is a general rule according to which the tool or the instrument may become the subject of the sentence, as in the sentence

(19) *The knife cuts easily.*

Yet if we take the situation of eating, the tool of eating cannot be used as the subject, or, e.g.

(20) *Robin ate soup with a spoon.*

cannot be transformed into

(21) *The spoon eats soup.*

simply because “the spoon” is used as a tool only in the first stage of eating, that is: putting something into the mouth.

Limitations of space do not permit us to describe other types of situations. Some of them will be mentioned in the section describing the correlation of the proposition with the situation of the sentence.

4. THE CENTRE OF EMPATHY. The semantic structure of a sentence is created by the interaction of the aforementioned two structures. This correlation might be termed the semantic configuration of the sentence, because the semantic sphere includes not only the referential properties of a sentence, as is true for the semantics of a sign (Morris), but also informational and pragmatic features. The semantic configuration, or the referential part of the semantic sphere of sentences, is created by merging propositional and situational structures, which means that we impose certain functions of the arguments and types of relations upon the structure of the state of affairs (situation) to be reflected in the sentence.

The type of merging of proposition and situation depends upon which participant in the state of affairs receives the function of the first argument of the proposition. This functional connection we call the centre of empathy, using the term proposed by S. Kuno (Kuno 1976). Positioning the centre of empathy on different participants in the situation produces different semantic and formal structures of sentences based on differences in general expectations. Generally, we can find four types of correlation between propositional and situational structures (Makutsa 2003). Very often the hierarchy of arguments and participants, as well as the types of relations in propositional and situational structures, coincides. We call this type of blending homomorphic. For example, if we try to describe a situation of destruction starting with the doer of this situation and give this doer the function of the agent, all the other participants receive appropriate functions in the propositional structure.

(22) *James (Ag+Doer) smashed the glass (Pt+Obj) into pieces (Ft+Result) with a stone (In+Tool).*

If the hierarchy of arguments and participants does not coincide, we obtain semantic configurations termed “allomorphic”. For example:

(23) *James' stone (Ag+Tool) smashed the glass (Pt+Obj) into pieces (Ft+Result).*

or

(24) *The glass (Ag+Obj) smashed into pieces (Ft+Result).*

We want to attract the reader's attention to sentence 26 in which the element *The glass* is signed as Ag+Obj. Usually in such sentences linguists think that this element should have the function of Pt. This interpretation of its function is due to the fact that we know that this element names the object in the state of affairs. However, if we take into consideration the transformational features of this sentence, we can see that this subject behaves as if it were an agent. The matter is that the verb *break* is the name of the relation in a dynamic proposition. And thus if it is in the active voice, the sentence should have an agent. Since in it there is no other nominal element, the only word that may have the function of the agent is *The glass*. In other languages, such as Slavonic, Romance, or other Germanic languages, the verb in similar phrases obligatorily has the reflexive pronoun. In Old and Middle English the situation was as in these languages. This specific structure became wide-spread in English approximately in the XVI century (Cherenda, 1998).

The resulting sentences display certain limitations based on the inter-relation of propositional and situational expectations. The propositional expectation defines the formal structures of the sentence, while situational expectations determine which of the formal sentence components will be manifest. The propositional expectations are created by the predicate, while the situational

expectations are shaped by the nominal elements of the sentence.

If the type of relation and its direction in the proposition do not coincide with those in the situation, we receive a heteromorphic semantic configuration:

(25) *Francis's movement was quick.*

This sentence refers to a situation in which the doer (Francis) performs some action, thus the situation is dynamic and directed. But the proposition presents it as static and non-directed. Heteromorphic configurations might only partially disagree within such a structure. Such a configuration might be termed diamorphic, as in the sentence

(26) *This house belongs to Soames.*

In this sentence the direction of the relation in the proposition starts with the initiative (this house) while in the situation the relation starts with the owner (Soames). In sentence (29)

(27) *Alice was sleeping in her bed.*

the proposition is obviously dynamic while the situation reflected is a state and it is hardly possible that anyone can sleep dynamically (even if furiously). Thus, the semantic configuration of the sentence is also diamorphic.

This very brief survey of the correlations between proposition and situation makes it possible to state that there should be a reason for the use of different types of semantic configuration. The difference in use should obviously depend upon the interest of the speaker.

5. THE FOCUS OF INTEREST OF THE SPEAKER. If choice of appropriate semantic configuration is determined by the speaker's wish, its focus must be extremely variable and should not completely depend upon the use of the language. In English the most variable position in the sentence is found exactly to the right of the predicate. Filling this position does not depend upon the rules of English, but it might change the form of other positions in the sentence. For example, if in the sentence with the predicate *to give*, we place the receiver just after the predicate, the sentence has the following form:

(28) *Eve gives Adam an apple.*

In case this position is occupied by the object, the receiver is introduced into the sentence with the help of a preposition:

(29) *Eve gives an apple to Adam.*

Thus, the focus of interest, a term adopted from Zubin (1979), is placed just after the predicate or else in the predicate itself (Ivanova-Mitsevich 2009). The choice of the focus of interest and the structuring of the sentence in English so that it should be placed after the predicate, determine the position of other participants of the state of affairs in certain places in the sentence. If we want to describe the situation of destruction, we may place the focus of interest on any of the participants, namely the doer, the instrument, the object and the result. If we place the focus of interest on the result, so that it occupies the position just after the predicate, we cannot find any place for the

patient, which, according to the syntax of English, should follow the predicate. In this situation the patient, or better to say, the object that was given the function of patient in the proposition, is moved to the agentive position or, in other words, into the position of the subject. For example:

(30) *The vase broke into pieces.*

If we want to place the focus of interest on the predicate we may produce either the sentence: *The vase broke*, or we may use the passive construction:

(31) *The vase was broken.*

In case the focus of interest should be placed on the doer or the instrument, we have to use a three-member passive construction with different prepositions. For example:

(32) *The vase was broken by Barbara.*

or

(33) *The vase was broken with a stick.*

If the focus of interest happens to be on the object, which functions as a patient, we receive a homomorphic construction:

(34) *Barbara broke the vase with a stick.*

Different positionings of the focus of interest or its placement upon different participants of states of affairs produce different situations. If we compare the structures of the situations of creation and destruction we can immediately see that they are similar. Both include the doer, the tool, the object, the result and, arbitrarily, the receiver. But if the focus of interest is constantly placed upon the result and the noun naming it acquires the function of the patient, we treat such situations as creation:

(35) *Galsworthy wrote a number of novels.*

But if the focus of interest most often is placed on the object which receives the function of the patient, we treat such situations as destruction:

(36) *Robert burned the letter.*

Different correlations of propositional and situational structures should lead to specific relations of expectations or predictions that are caused by the lexical units in the sentence.

6. INTERACTION OF LEXICAL UNITS IN SENTENCES. During the twenties and early thirties, German linguists developed a theory of semantic fields (Ipsen 1924, Trier 1931, Porzig 1934). According to this theory words might be systematised paradigmatically (Trier 1931) or syntagmatically (Porzig 1934). W. Porzig showed that syntactic fields are organised by the prediction of one word

by other words, mostly predicates, within sentence frames. In fact, W. Porzig's description of the syntagmatic relations of words is similar to what we have stated about affairs or situations. This means that all words, especially notional ones, possess in their semantic structure semes, indicating the function of the word referent in the state of affairs (situation). For example: if we take the word "pen", we expect that it should be used in the role of instrument, or sometimes agent, in sentences describing writing, because in the situation of writing, this word names the tool of writing. At the same time, we expect that there should be some result of writing (a letter, a book, etc.), and there should also be some flat surface, on which we write – mostly paper. From these considerations, it follows that notional words predict their surroundings.

Yet expectations aroused by this prediction can be broken, and the reference of the predicate element and nouns functioning as arguments may not coincide, or more exactly, may refer to different situations or states of affair. For example:

(37) *Philip's repentance moved Thomas.*

In this sentence we see that the verb refers to the situation of displacement, while *repentance* refers to a moral situation. As a result, the whole sentence describes a situation of change in the emotional or psychological state of the object (patient), that is, of Thomas. This discrepancy or disparity in the reference of the arguments and the predicate might be called heterolexia.

Discrepancy in reference might be found between expected functions of participants in states of affairs and their actual manifestation. This happens when the tool or object of a certain state of affairs acquires the function of the agent. For example:

(38) *Evangeline (Ag+Doer) opened the door (Pt+Obj) with her key (In+tool).*

The sentence might be transformed into

(39) a) *Evangeline's key (Ag+Tool) opened the door (Pt+Obj).*

b) *The door (Ag+Obj) opened.*

This type of discrepancy might be called allolexia. A description of lexical discrepancies is presented in Bogushevich, Ivanova-Mitsevich, Makutsa (2006).

7. SOME RULES FOR CREATING SEMANTIC CONFIGURATIONS IN ENGLISH. Homomorphic and homolexic semantic configurations of sentences are produced without any specific limitations. Some specific rules are found when the speaker has to produce semantic configurations deviating from homostructures because her focus of interest does not coincide with the object of the state of affairs. Specific rules for English are necessary because English, having no formal cases, employs word position to indicate syntactic properties. This is also true for the focus of interest. The situational element of the focus has a special place just to the right of the predicate, which position is normally occupied by the direct object or the patient of the proposition. If some other element appears in this place, it causes a re-distribution of the functions of the arguments associated with the participants of the situations. We have to note that the focus of interest does not coincide with the rhematic portion of the sentence. The difference is that the rhematic element of a sentence showing the new information is employed as an element of constructing texts. It's quite obvious that if you take a sentence outside of a text its rhematic element becomes more prominent, but still

it shows something new. The focus of interest shows what the speaker thinks to be the most important element in constructing the way to describe a given state of affairs. Thus, the functions of the focus of interest (in our understanding) and the rheme are different, and so these are different functional elements of sentences.

An analysis of a great number of English sentences allows us to formulate several rules limiting or permitting the re-distribution of the significational functions on the participants of situations. Here we present those rules which seem to us to be most important from our point of view. The first rule regulates the positioning of the centre of empathy on the object of the situation. The centre of empathy may be placed on the object of the situation and, as a result, make the verb in the predicate position intransitive, only if both the situation and the proposition are dynamic and in the standard presentation of the situation the object functions as patient. For example, such verbs as verbs of destruction or movement may have an intransitive use with their direct object shifting to the position of the subject:

(40) *The car moves.*

(41) *The glass broke.*

(42) *The paper burned.*

If the function of the patient is placed upon the result, such transformations are impossible.

If dynamic and directed relations of propositions and situations are contrary to each other, moving the direct object into the position of the subject is impossible. For example: in sentences with such verbs as *look, sound, taste, smell, feel* it is possible to shift their direct objects to the subject position, while it is impossible to do so with sentences containing predicates like *to see, to hear, etc.*

If a sentence reflects a complex situation, the result of the included situation might be shown by the doer of the included situation:

(43) *Bernard put on his macintosh.*

Unfortunately, space limitations do not permit us to describe other rules.

8. CONCLUSION. We believe that this approach, which we call compositional, if developed, can be used to formalise the semantic sphere of sentences. It presupposes that such a formal description of sentence meaning should include at least three databases and three sets of rules. One database should include types of situations (the denotational aspect of the sentence), and the next should consist of variants of propositions (the significational aspect). The third database should be made up of semantic configurations. The first set of rules regulates the positioning of the centre of empathy to produce semantic configurations. The second set of rules describes ways of transforming the semantic configurations to the surface (members of the sentence) structures. The third set of rules, being pragmatic in nature, determines the positioning of the focus of interest of the speaker.

REFERENCES

- AGNES, MICHAEL ET AL. 2002. *Webster's New World College Dictionary (fourth edition)*. Wiley Publishing, Inc.
- BOGUSHEVICH DMITRY, E. ILYUKEVICH, LYUBOV KOZLOVA, EKATERINA MAKUTSA, AND VICTORIA PETRUSEVICH. 1997. Outline of Compositional Syntax. In *Proceedings of the XVI International Congress of Linguists*. Paris: Bergamon.
- BOGUSHEVICH DMITRY, IRINA IVANOVA-MITSEVICH, AND EKATERINA MAKUTSA. 2006. O vzaimootnisheniyax propositsii i situatsii v predlozhenii in *Struktura, semantika i funktsionirovanie yazykovykh edinits raznykh urovnei*, ed. by Bogushevich D.G. et al. (Minsk State Linguistic University), vol. 2, 7-15.
- CHERENDA, ANGELA. 1998. *Angliyskaya inaktivnaya struktura v diakhronii*. Minsk.
- IPSEN, GUNTER. 1924. Stand und Aufgaben, der Sprachwissenschaft. *Der alte Orient und die Indogermanen*. Heidelberg.
- IVANOVA-MITSEVICH, IRINA. 2009. *Denotativnaya oblast' verbal'nogo informirovaniya i osobennosti yeye otrazhenia v angliyskom predlozhenii*. Voronezh: Voronezh State University.
- KOZLOVA LYUBOV. 1988. *Semanticheskaya struktura i textovye funktsii predlozhenia s nelichnymi formami glagola v sovremennom angliyskom yazyke (podyazyk elektroniki)*. Minsk: Minsk State Linguistic University.
- KUNO, SUSUMU. 1976. Subject, theme, and the speaker's empathy: A re-examination of relativization phenomena. In *Subject and topic*, ed. Charles N. Li, 417-444. New York, Academic Press.
- MAKUTSA, EKATERINA. 2003. *Struktura i semantika predlozhenii s glagolami fizicheskogo vospriyatiya v angliyskom yazyke*. Minsk, Minsk State Linguistic University.
- PORZIG, WILHELM. 1934. Beitrage zur Geschichte der deutschen Sprache und Literatur. *Wesenhafte Bedeutungsbeziehungen*.
- TRIER, JOST. 1931. *Der deutsche Wortschatz im Sinnbezirk des Verstandes*. Heidelberg.
- ZUBIN, DAVID. 1979. Discourse function of morphology. In *Discourse and syntax*, ed. T. Givón, 469-504. New York.

This article was first published at lacus.weebly.com.





THE SEMANTICS OF RELATED PREPOSITIONS: THE CASE OF *BENEATH*, *BELOW*, AND *UNDER*

RENISON GONSALVES
Brooklyn College

Abstract: This paper examines the lexical semantics of the spatial prepositions *beneath*, *below*, and *under* from the point of view of Optimality Theory. Following closely the analysis of *in* and *on*, and *over* and *above* by Joost Zwarts (2008), it concludes that the features contributing to faithfulness conditions that help to distinguish the productions of these prepositions are features that are compatible with each other but distinguish the prepositions by their presence or absence and so do not contribute to a hierarchical ranking of constraints.

Keywords: lexical semantics, optimality theory, spatial prepositions, vector semantics.

Language: English

THE SEMANTICS OF ENGLISH spatial prepositions such as *in*, *on*, *above*, and *over*, and indeed of adpositions, or what has come to be referred to as “Spatial P,” in various languages, has received a great deal of attention in recent years (see especially Asbury et al: 2008). The aim of this short paper is to develop a preliminary analysis of the semantics of *beneath*, *below*, and *under*, using Optimality Theory as a theoretical framework, and following closely on the work of Joost Zwarts in “*Priorities in the production of prepositions*” (Zwarts: 2008).¹ The intent is to develop an analysis of the meanings of these three spatial prepositions that builds on previous work and extends the study of lexical semantics using the tools of Optimality Theory (OT).

We will begin by considering just the following three example sentence frames for using the spatial prepositions *below*, *beneath* and *under*;

- (1) We cleaned the area _____ the refrigerator.
- (2) The Brooklyn Battery Tunnel runs _____ the East River.
- (3) They built their house just _____ the top of the hill.

¹ Zsiga, Elizabeth C. 2013. *The Sounds of Language*, Wiley-Blackwell, pages 304-329, provides a good brief introduction to Optimality Theory.

Before proceeding the reader can try to put one of each of these three prepositions into the sentence for which it is best suited. The OT analysis provided here is intended to mirror the decision procedure for choosing the correct preposition in each case based on the subtle meaning differences between them. The writer will assume the following solution:

- (4) We cleaned the area under the refrigerator.
- (5) The Brooklyn Battery Tunnel runs beneath the East River.
- (6) They built their house just below the top of the hill.

In general, spatial prepositions in English, as in many other languages, express a spatial relationship between a figure and a ground (see especially “How language structures space”, Chapter 3 of Talmy (2000)). So, for example, in sentence 4 the figure is “the area” and the ground is the refrigerator. The purpose of the preposition “under” here is to position the figure, the area, relative to the ground, the refrigerator. It does this by denoting a projection downwards from the underside of the refrigerator. We might think of *under* as working by attaching a number of arrows (or vectors) connected to the bottom of the refrigerator and pointing downwards towards the floor. These arrows project downward to the floor, picking out just the area under the refrigerator (see more on the use of vectors in the semantics of spatial prepositions in Asbury et al. (2008: 12-15), and in Zwarts & Winter (2000)).

So, I will take it that the spatial preposition *under* gives the figure the following spatial relationships relative to its ground:

- (7) *Under*: lower than (LOWR), covered by (COVRD).

I have placed abbreviated forms of these relationships for use as features of these prepositions in parentheses. So, in sentence 4, *under* says that the area cleaned was lower than, and covered by the ground, the refrigerator.

For *beneath* I will assume that it sets up the following spatial relationships relative to its ground:

- (8) *Beneath*: lower than (LOWR), covered by (COVRD), and concealed by (CONCLD).

And for *below* I will assume that it sets up the following spatial relationship relative to its ground:

- (9) *Below*: lower than (LOWR).

All of this is just a preliminary guess at how these spatial prepositions work. We will compare the features suggested here to those implicit in the analysis by Talmy (2000).

2. OPTIMALITY THEORY AND SPATIAL P. Joost Zwarts (in Asbury, et al. 2008) has worked out an analysis of several spatial prepositions using Optimality Theory or OT (Prince & Smolensky: 1993/2004). In OT, which was first used in phonology, there is a set of ranked constraints that work as a filter on an input to choose the most optimal output. The input generates a set of candidate forms that is then filtered through the set of ranked constraints. The constraints are

universal in the sense that they are conceived of as part of the toolbox of universal grammar. They can conflict with each other and they are ranked differently in different languages, from the most important constraints to the least important constraints in that language. If a candidate form violates a very highly ranked constraint in a given language, then the violation can be fatal and that candidate form is filtered out. The form that wins in this filtering process is the one that has the lowest degree of violations of the ranked constraints. One particular general category of constraints is the set of faithfulness constraints which generally require the candidate form to correspond exactly to the input. This filtering process is often represented in the form of what is called a tableau. The following tableau from Zwarts (2008: 87), having to do with the fact that some languages require sentences to have a subject and some don't, illustrates this well:


"It rains"	SUBJECT	FULL INTERPRETATION
<i>Rains</i>	*!	
 <i>It rains.</i>		*

Table 1. Inserting an expletive subject

The two conflicting constraints here are SUBJECT, which requires that a sentence have a subject, and FULL INTERPRETATION, which requires that every word in a sentence have an interpretation. In English, which requires every sentence to have a subject, SUBJECT is ranked higher than FULL INTERPRETATION, which is why SUBJECT is placed to the left of FULL INTERPRETATION in the above tableau. The first candidate form, *Rains*, violates SUBJECT, the higher ranked constraint in English, indicated by the asterisk in the first column. This violation is fatal, as indicated by the exclamation mark after the asterisk. The second candidate form, *It rains*, with the un-interpreted expletive subject *it*, violates FULL INTERPRETATION. Since this constraint is ranked lower than SUBJECT in English, *It rains* wins this contest, hence the pointing hand to the left. In contrast, in a language like Italian, which ranks FULL INTERPRETATION higher than SUBJECT, we simply say *Piove*.

We will apply OT to spatial prepositions by taking as input a meaning and then filtering the candidate forms through a set of ranked constraints in order to get as output a choice of one of several input prepositions. We will start with the prepositions *outside* and *below*. I will assume the two semantic features EXT(ERNAL) and LOW(ER), and we will imagine an input of a circle with a star placed outside of and below the circle:

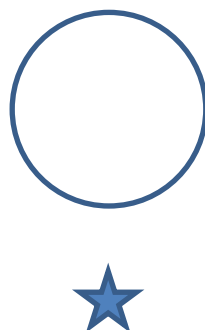


Figure 1. A circle and a star.

If we had a choice between “the star is *outside* the circle” and “the star is *below* the circle,” which would we choose as the most accurate and complete description of **Figure 1**? The claim here is that we would choose *below*. This choice is consistent with the following tableau:

[EXT, LOWR]	Faith(LOWR)	Faith(EXT)
Outside _{EXT}	*!	
or Below _{LOW}		

Table 2. Optimality description of a star below a circle

Since *below* has both features, EXT and LOWR, it violates neither faithfulness constraint, requiring the output to be faithful to the input meaning. *Outside*, on the other hand, violates Faith(LOWR). It seems possible that among English spatial prepositions, only *in* and *inside* violate Faith(EXT) (see the table of the typology of spatial prepositions in Zwarts & Winter 2000: 172). So *below* wins the competition in table 2.

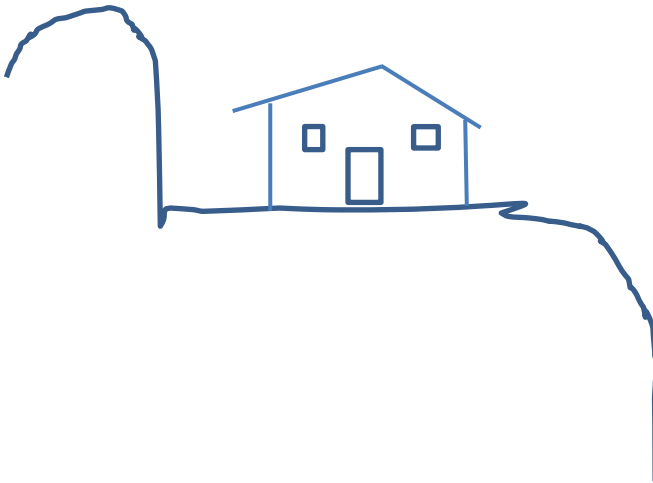


Figure 2. A house just below the top of a hill.

Now consider **Figure 2** with the three possible descriptions “they built their house just under the top of the hill,” “they built their house just beneath the top of the hill,” and “they built their house just below the top of the hill.” Using the features representing the relationships between the figure and the ground denoted by the three spatial prepositions here, we might suggest the following tableau:

[LOWR]	Faith(CONCLD)	Faith(COVRD)	Faith(LOWR)
under		*!	
beneath	*!	*!	
or below			

Table 3. Optimality description of a house just below the top of a hill.

COVRD is not in the input meaning since the house is not covered by the top of the hill. Since *under* has the feature COVRD, which is not in the input meaning, we get a violation of the faithfulness constraint Faith(COVRD) for *under*. Similarly, since *beneath* has the feature CONCLD and COVRD, neither of which is in the input meaning since the house is not concealed or covered by the top of the hill, it violates both Faith(CONCLD) and Faith(COVRD), and so *below* wins the competition here. This tableau also suggests why *beneath* is slightly worse than *under* in this context—it suffers from one additional violation.

Turning now to sentence 5, “The Brooklyn Battery Tunnel runs beneath the East River,” we have the following tableau:

	[CONCLD,COVRD,LOWR]	Faith(CONCLD)	Faith(COVRD)	Faith(LOWR)
“under”		*!		
✱ “beneath”				
“below”		*!		*

Table 4. *Optimality description of beneath the East River.*

Here neither *under* nor *below* carry the feature CONCLD; they do not entail that the figure is concealed by the ground, which *beneath*, seems to entail, at least some of the time. I included COVRD for covered in the input meaning since the River covers the Tunnel. So *beneath* wins here since it has that meaning of concealing the figure which is part of the input meaning that the other two prepositions lack.

Turning finally to sentence 4, “We cleaned the area under the refrigerator,” I suggest the following tableau:

	[LOWR, COVRD]	Faith(CONCLD)	Faith(COVRD)	Faith(LOWR)
✱ “under”				
“beneath”		*!		
“below”			*!	

Table 5. *Optimality description of under the refrigerator.*

Here *beneath* fails because it has that feature of concealment of the figure which is not in the input meaning, and *below* fails because it lacks the meaning of covering the ground which is in the input meaning. *Under* wins since it has no violations.

CONCLUSION. In looking back over this little exercise of trying to design an OT treatment of these three spatial prepositions and relating it to Talmy’s analysis of how language structures space, we are led to the following conclusions.

First, one of the useful features of OT is that the constraints are not absolute. I take it that what that means for the uses of words in sentences is that the features don't always have to match exactly. I am sure, for example, that while *beneath* does have on some of its uses the meaning of concealment, there are occasions when it is used without this meaning. Indeed, Talmy points out this variability in his analysis of the prepositional expressions *underneath*, *under*, *below*, and *lower than*.

All these four forms tend to exhibit “slippage” toward the right. For example, while *underneath* predominantly suggests physical contact, it can also be found functioning like *under*. (Talmy 2000: 206).

If we were to add the expression *lower than* and the feature VERTAX for the figure having the same vertical axis as the ground, in OT we might account for this slippage with the following tableau:

Sentence 5	Faith(CONCLD)	Faith(COVRD)	Faith(VERTAX)	Faith(LOWR)
☞ “beneath”				
“under”	!*			
“below”	!*	!*		
“lower than”	!*	!*	!*	

Table 6. Revised Optimality description of *beneath the East River*.

Here the violations marked assume that all the semantic features are present in the situation described, as in sentence 2. **Table 6** suggests the possibility of slippage downwards when an expression is used for a situation more appropriate to the expression below it, apparently ignoring the absence of a single feature in the situation described.

And when we now look back at **Table 3**, intended to account for the use of *below* in the sentence *They built their house below the top of the hill*, we find that it represents exactly this kind of slippage downwards, using *below* when in fact a more complete tableau would have us conclude that in the situation illustrated in **Figure 2** *lower than* would be the more appropriate choice, given that the house does not lie in the same vertical axis as the top of the hill. Proximity seems to be at play in allowing the slippage here.

While accounting for “slippage” in this way, I have not been able to find one-to-one conflicts between constraints that would help to decide on the ranking of the constraints developed here. Zwarts (2008) does this for *in* and *on*. *In* is taken as having the meaning feature of CONTAINMENT and *on* is taken as having the meaning feature of SUPPORT. In a situation where both containment and support apply, as in an apple in a bowl or a bulb in a socket, *in* clearly wins, suggesting that Faith(CONT) is ranked higher than Faith(SUPP). For *beneath*, *under*, and *below*, however, because of the distribution of the features among these spatial expressions, it doesn't seem that we could use them to reveal the ranking of the corresponding faithfulness constraints. In fact, we are left with the possibility that these faithfulness constraints are unranked

relative to each other. In addition, Zwarts (2008) works out the following hierarchy of the ranking of some of the faithfulness conditions for English spatial prepositions (Asbury et al, 2008: 100):

CONTAINMENT>>	SUPPORT>>	SUPERIOR>>	CONVEX
in	on	over	around

Given that *over* is consistent with SUPERIOR, the prepositions considered in this paper—*beneath*, *under*, and *below*—should all be consistent with the contrasting constraint INFERIOR, corresponding to the condition LOWR as used here. In other words, *beneath*, *under*, and *below* form a group of spatial prepositions that are very similar in meaning and that are distinguished from each other by the presence or absence of compatible features which do not seem to give rise to a hierarchy, and which allow for slippage.

REFERENCES

- ASBURY, ANNA; JAKUB DOTAČIL; BERIT GEHRKE; & RICK NOUWEN (ed.). 2008. *Syntax and semantics of spatial p*. Amsterdam/Philadelphia: John Benjamins.
- PRINCE, ALAN, & PAUL SMOLENSKY. 1993/2004. *Optimality theory: Constraint interaction in generative grammar*. Malden, MA, & Oxford: Blackwell.
- TALMY, LEONARD. 2000. *Toward a cognitive semantics: Vol. 1*. MIT Press: Cambridge, MA.
- ZSIGA, ELIZABETH C. 2013. *The sounds of language*. Malden, MA: Wiley-Blackwell.
- ZWARTS, JOOST. 2008. Priorities in the production of prepositions. In *Syntax and semantics of spatial p*, ed. by Anna Asbury, Jakub Dotačil, Berit Gehrke, & Rick Nouwen, 85-102. Amsterdam: John Benjamins.
- ZWARTS, JOOST, & YOAD WINTER. 2000. Vector space semantics: A model-theoretic analysis of locative prepositions. *Journal of logic, language, and information*, 9: 169-211.

This article was first published at lacus.weebly.com.





THE ADAM/ALAN HYPOTHESIS: THE MIRAGE OF MACHINE TRANSLATION

ROBERT ORR
Ottawa

Abstract: This paper argues that despite various continuing claims to the contrary, machine translation is a mirage. It accepts the hypothesis put forward by Makkai that humans learn their language in two stages: absorption of massive amounts of material (equivalent to translation memory in machine translation terminology) followed by attempts to systematise it all. Computers appear to be stuck at the absorption stage and are likely to remain so without some fundamental jumps in technology.

Keywords: machine translation, translation memory, computer, chess, programmes, google.

Languages: Chinese, English, Greek, Hungarian, Latin, Russian, Sanskrit, Scottish Gaelic, Welsh

SINCE AT LEAST THE END of WW2, the great advances made in computer science have repeatedly evoked in many linguists and translators a fascination with the idea of **machine translation (MT)**,¹ and new generations of young computer whizzes have continually been announcing that real machine translation is imminent, a phenomenon that first emerged while Chomsky was still in his teens; it might also be noted that Chomsky also suggests the presence in the brain of a tangible, isolatable “language acquisition device (LAD)”, which would have been an ideal springboard for developing machine translation. Indeed, that area was where the young Chomsky was initially hired in the 1940’s, and it was in the context of support for machine translation that Chomsky’s well-known early work at MIT (e.g., Chomsky 1957, 1964, 1965) received so many Pentagon and other defence-related grants (as noted in the acknowledgements to these works, which specifically mention, e. g., the US Army, US Air Force, Office of Naval Research, etc.). In fact, the MIT Research Laboratory of Electronics was itself funded by the Pentagon.

¹ The issue of machine-translation vs. computer-assisted translation ... for the purposes of this paper, “computer-assisted translation” will be taken to mean ANY use of computer technology to produce translation, while the definition of machine translation will be comparatively narrow: translation produced without any human input at all, the machine to translate a source text into a target text and then taking the result as a final copy.

As recently as January 2013 the Economist ran an article recalling that in the 1960's version of "Star Trek", the crew wore tiny, computerised Universal Translators that could "scan alien brainwaves and simultaneously convert their concepts into appropriate English words", going on to say that "A series of announcements over the past few months from sources as varied as mighty Microsoft and string-and-sealing-wax private inventors suggest that workable, if not yet perfect, simultaneous-translation devices are now close at hand."

Along the same lines, the 1950's saw the emergence of the so-called "Turing Test", which involved assessing a machine's ability to behave in a manner indistinguishable from that of a human being in problem-solving, albeit limited to a text-only medium, such as, e.g., keyboards and screens, so that the result was not dependent on the machine's ability to render words into audio. If material produced by a machine could not be reliably distinguished from material produced by a human, the machine was said to have passed the test, but all the test did was check how closely the machine's answer resembled typical human answers.

1. ALAN MELBY, TRANSLATION MEMORY, AND THE TRANSLATION "TURING TEST". Recently Melby in press, has drawn our attention to the process whereby real machine translation is constantly announced as imminent, while at the same time there remain just a few glitches to be overcome. He also suggests his own modification, the "Translation Turing Test", where a judge has to determine whether a given text was translated by a human or a computer. If the judge guesses wrong more than 30% of the time, the computer is deemed to have passed.

Although this was not the main thrust of his argument, Melby's initial presentation included convincing argumentation that all "Google Translator" and similar programmes actually do is accumulate masses of data and then crudely match these masses to the target text, producing something that does look like a rough translation, with sheer breadth of material being used to provide coverage, but with hardly any actual processing thereof, apart from phraseology-based data-matching, although recently some programmes have begun to offer alternative renderings. At their current stage of development computers cannot yet be used for MT without substantial revision of their product by human professionals. Computers are in many ways still around the stage of development of a two-year-old child, who is just about to embark on processing large amounts of newly-accumulated material in such a way as to rapidly progress towards full linguistic control thereof. It goes without saying, however, that computers have been able to absorb far more raw data than two-year-old children for a long time, and are becoming more powerful, and handling ever-increasing amounts of material. Nevertheless, computers appear stuck at that stage—often appearing to provide crude "translations" simply by processing more and more material: increased QUANTITY as computers become more powerful, with no concomitant increase in QUALITY.² The sheer amount of material absorbable by computers has been masking this very real problem.³

Taken as a whole, the sum of the accumulated "masses of data" cited above is usually dubbed TRANSLATION MEMORY (TM), a resource without which machine translation would be simply unthinkable, and yet on its own is still very far from "machine translation".⁴

² Since then Melby's research in this area has taken a different direction, as exemplified in his 2013 paper.

³ Leonhardt (2013: 147) cites the case of Nosoponos, who put in a tremendous amount of effort into writing a brief letter in Latin, by a process akin to modern "cutting and pasting" from the works of Cicero, which might be seen as a pre-computer-age attempt by a human to make use of a sort of TM.

⁴ In contrast to the pretensions so frequently offered by Star Trek, the explanation offered by the Doctor Who story The Masque of Mandragora http://www.dailymotion.com/video/x9b0fz_the-masque-of-mandragora-part-8 short films (1:37 and 9:40) is still probably as close as we can get to any real implementation of MT without some real, serious

Furthermore, TM still has to be inputted and cross-checked by human translators: it works best on texts which are highly repetitive, such as technical manuals, technical documentation, laws and documents containing specialized vocabularies. It is also helpful for making incremental changes to previously translated documents, e.g., minor changes in new versions of user manuals, or of legal documents. Another question for which the mere posing illustrates the extent of the problem is how computers match essential material not actually overtly present in the source text, e.g., articles for translations from, e.g., Russian into English, or classifiers for translations from, e.g., English into Chinese.⁵

Meanwhile, the Canadian Translators, Terminologists and Interpreters Council (CTTIC) has been closely following progress made in the field of assisted translation tools, including automatic (i.e. “machine” translation), and recently issued the following advisory:

“Even though the latest machine translation software is producing results that are increasingly promising, such as allowing the reader to have a general idea of the gist of a document written in a language he/she does not possess, a translation generated using a machine translation tool does not produce a level of quality sufficient to correctly convey a full message in another language and must be reviewed by a qualified professional translator.”

As recognized by machine translation software designers, “even today’s most sophisticated software, however, doesn’t ... possess the skill of a professional translator. Automatic translation is very difficult, as the meaning of words depends on the context in which they’re used. ... it may be some time before anyone can offer human quality translations”⁶

As part of their mandate, CTTIC’s member organizations have a duty to ensure the protection of the public. As such, CTTIC and its members urge users to exercise the highest degree of caution, and to call upon a certified translator for all their translation requirements.”

For further discussion, including a survey of much of the history of machine translation in the United States, and some of the problems involved, see Lamb 2004.

2. CHESS. One superficial counterexample to the theory that computers are stuck at the stage of a human two-year-old might be provided by another possible computer-based analogy to the human brain: chess. Chess end-games, however, with each side normally reduced to a couple of pieces and trying to reach a situation, then aiming for another situation, and then perhaps another, still gave computers a hard time. By the early 1980’s, however, chess-playing machines were available and they used the brute force made possible by bringing the sheer weight of data to bear (analogous to TM), culminating in cases of computers actually playing chess against humans, cf. the defeat of Gary Kasparov in two out of three games by IBM’s Deep Blue in May 1997. Ironically, though, Kasparov was not defeated by the superior intelligence of the computer. He was transfixed by something he misinterpreted as higher intelligence, and ended up by chasing shadows and identifying non-existent depths of strategic insight.

At a first glance this might be seen as evidence that computers have now reached the stage of behaving almost indistinguishably from human beings. But for that to be true, the computer itself would have had to be bluffing, based on a dawning human-like/humanoid awareness that it could

quantum leaps. Human editors, reviewers, will ALWAYS be needed.

⁵ Research in this area might also be extended to early language acquisition.

⁶ Programmes such as FAQ, Google Translate, etc., are clearly meant.

beat Kasparov by spooking him, like a poker player making the best of a very weak hand. And in its turn such a computer would have to be vulnerable to being spooked itself.

In any case, however, recall that despite its apparent complexity, a chess game normally only allows a limited number of finite, computable moves at any one stage (precisely the sort of situation TM is meant to handle): a proper analogy for language and translation would be provided by multi-dimensional chess⁷ by cases where the rules of chess could be suddenly broken (thereby ceasing to be rules and becoming mere tendencies, or “guidelines”, allowing pieces to make unexpected moves (e.g., knights moving like rooks; kings moving like queens), to which there would be discernible underlying patterns, but providing for exceptions in turn or even introducing new pieces, or turning pawns into queens on a whim, etc., instead of according to a simple, fixed rule, whereby the number of possible moves would be multiplied, even without the extra complications involved in adding new dimensions.

In fact, turning pawns into queens on an arbitrary basis finds a close parallel in language, where nouns can often be turned into verbs and vice versa. This process is most obvious in languages poor in derivational and inflectional resources such as English and Chinese, but it should be noted that even in languages rich in such resources, such as, e.g., Hungarian, allow for forms such as:

fagy: either a noun ‘frost’ (*a fagyban* ‘in the frost’ *fagyok* ‘frosts’, *a fagyokban* ‘in the frosts’) or a verb ‘freezes’ (*fagytam* ‘I froze’ *fagyott* ‘he/she/it froze’),

les: either a noun ‘ambush’ (*lesben* ‘in ambush’ *lesek* ‘ambushes’), or a verb ‘watches’ (*lestem* ‘I watched’ *lesett* ‘he/she/it watched’).

Hungarian *fagy* and *les* are unmarked forms, both as nouns and verbs. Russian has a few more marked finite verb forms such as, e.g., *свечу/светлю*, which can function either as a noun (‘heavenly body’ neut. sg.) or a verb (‘it shone’ past neut 3rd sg.).

In any case, deriving nouns from verbs and verbs from nouns is not a straightforward process in any language: a certain degree of unpredictability is always there.⁸ A process whereby ANY noun can be made into ANY verb or vice versa is TOO powerful: most languages have more limitations on such changes than English or Chinese. Understanding a sentence is like watching a chess game and grasping the player’s strategy, something chess-playing machines still cannot do. The observer sees a move and makes a leap, grasping the purpose supporting the move. In the same way, understanding a metaphorical sentence the listener must leap to the relevant references and see the purpose that justifies them.

3. LANGUAGE CHANGE. In addition to undergoing the more easily quantifiable processes such as sound change, living languages are constantly changing in imperceptible ways, involving the addition of new words, new senses in words, new contexts for words, and parallel outright loss of words, and senses and contexts: listing processes which in turn subsume many degrees of detail, all of which cause extra problems for translation.⁹ Dictionaries, therefore, unable to keep up with

⁷ On its own, the oft-cited three-dimensional chess would still imply a finite set of moves, and therefore for our purposes it is better to visualise a multidimensional game, with the “multi” denoted by “x”.

⁸ Another example, although many more could be cited, is provided by Celtic, where, to a greater or lesser extent in all the family members, verbal nouns have become integrated into the basic verbal system, and simply have to be learnt, similar to verbal “principal parts” in, e.g., Latin and Greek, e.g., Scottish Gaelic *iarr* ‘ask’ – vn. *iarraidh*, *òl* drink vn. *òl*, *rach* go vn. *dol*, etc.

⁹ E.g., defective/suppletive verbs, special collocations, etc.

such changes, are constantly in a state of obsolescence, even at the pre-publication stage. It goes without saying that humans are unable to keep up with the sheer degree of detail required for every dictionary entry, but could computers, which still require humans to key in data, really do any better?

One comparatively recent example was provided by the 2012 US Presidential election, where a Republican strategist suggested that changing Governor Romney's image in an attempt to appeal to new groups would be as easy as shaking an Etch-A-Sketch. Democrat commentators picked that up and used it as a verb, creating a new metaphorical synonym for opportunistic change. For humans it is easy to visualise Etch-A-Sketch, shaking and covering old images ready to display something else, if one knows the context of where the word came from and catches the implications, and see the process as a verb. But suppose our newly-purchased, state-of-the-art computer was confronted with the verb "etch-a-sketch". How would it proceed? Would it understand the derivation process? And if the answer to the second question is "no", how could it translate the phrase? Sometimes it undoubtedly could, such as in cases when verbs simply mean using the noun, as in "he photoshopped his picture", but in many cases it would be confronted with great difficulty.¹⁰

How would a computer proceed? Would it understand the derivation process? And if the answer to the second question is "no", how could it even begin to translate the phrase?

And moving beyond the individual word level, it might be noted that this sort of problem has been known almost since the dawn of civilization. Coulson (1973: xxiii) points out that Panini's well-known grammar "...did not fix syntax. To do so explicitly and incontrovertibly would be difficult in any language, given several ways of expressing the same idea and various other ways of expressing closely similar ideas..." This is a problem that would have to be resolved properly before machine translation can become a reality.¹¹

This overall problem is dealt with in some detail by Rivelis 2007; see also Orr 2010.

Meanwhile, more recent research points out that the term "language" covers a number of different abilities, and that the relevant neural substrates are located in different parts of the cortex, even more than one at the same time, especially if we include semantics. The range of meanings for individual morphemes or words may be spread widely, with the left and right hemispheres holding different aspects of the meaning. Therefore, it may be argued that no LAD as such actually exists, and that the internal processes providing the abilities to learn, understand, and use languages are spread out all over the brain.

A parallel may be seen in concurrent developments in genetics and their application to the reconstruction of human evolution and prehistory. One recent discovery in genetics which has proven of great interest to linguists is the isolation of the FOXP gene, see Lamb (2004). Stringer (2012: 113) points out that the emergence of the FOXP gene may actually predate the emergence of modern humans: he goes on to suggest (2012: 193-94) that Neanderthals may have had the FOXP gene, and that this might be another piece of evidence to suggest that they might have had human-type language.

¹⁰ More recently (August 2013) the following slogan emerged in Ontario: "A Single Child Groomed is a Crime - A Million Children Groomed is a 'Curriculum'".

¹¹ Coulson goes on to say (1973: xxv): "To this may be added the inadequacy of existing dictionaries for many kinds of Sanskrit texts, and the fact that modern scholarship has still a long way to go in reconstructing the cultural and intellectual presuppositions, the 'universe of discourse' implicit in Sanskrit literature." This, too, might seem to pose a problem for machine translation.

4. ADAM MAKKAI: HUMANS ACTUALLY LEARN THEIR FIRST LANGUAGE IN TWO STEPS. The suggestion of two stages of language acquisition (accumulation of data followed by systematisation) actually appears to echo the thought of Adam Makkai, who in a series of works, most recently 2009, has suggested that humans actually learn their first language in two steps, the first of which involves the simple absorption of massive chunks of material as idioms (which would include almost perfect mimicry of phonetic detail), and the second, beginning after the age of around two, an attempt to systematise it all. In contrast to human development, however, the second step, analysis of the material, appears to be totally beyond computers at their current stage of development despite all the claims cited above. In a personal communication Makkai also notes that computers lack emotion, or any ability to scold, seduce, joke, play, etc., all of which would be essential, at least on the passive level, to be able to produce accurate translations. And that applies to words alone—the inclusion of various word collocations and phrases, especially those normally deemed untranslatable, compound the problems, cf. context-sensitive phrases such as, e.g., Russian X TAK X. Computers can “translate” and repeat, e.g., chemical equations, but much material (e.g., poems) remain beyond them. Such shortcomings were nicely captured in the 1973 Dr. Who story *The Green Death*, where the Doctor traps a giant computer into a question it can’t answer:

[http://www.dailymotion.com/video/xq4vr1_the-green-death-4-6_shortfilms\(1973\) from 24:30](http://www.dailymotion.com/video/xq4vr1_the-green-death-4-6_shortfilms(1973) from 24:30)
http://www.dailymotion.com/video/xqdlji_the-green-death-5-6_shortfilms
<http://www.dailymotion.com/ca-en/relevance/search/dr+who+green+death/1#video=xs1o166:19>

Another pertinent example is provided by the random texts that people are often asked to type in before accessing certain pages, or proceeding, something, just to prove they are human. This would include expressions of emotion, the purpose to scold, seduce, joke, play, etc.; apparent counterexamples involve pre-programming by humans (e.g., Wayne Knight in *Jurassic Park*: “you didn’t say the magic word!”). A computer capable of translation would be able to recognise such randomly generated expressions.

In contrast to human development, therefore, the second step, analysis of the material, appears to be totally beyond computers at their current stage of development despite all the claims cited above.

For sophisticated reasoning, computers are in many way ways still around the stage of development of a two-year-old child, who has just reached the stage of accumulating a similar amount of material, and is beginning to process it in such a way as to rapidly progress towards full control.

In short, the step of systematising and analysing the material appears to be totally beyond machine translation at its current stage of development.

Many examples from various science fiction movies would seem to bear out this assessment. Real machine translation can only be part of an overall massive expansion of the capabilities of computers, such as a loose film adaptation of H. P. Lovecraft’s “From Beyond,” which includes a scene where an unplugged computer, with a tremendous effort (the camera zooms in on the main cord slowly and painfully raising itself from the floor), manages to plug itself back in.[http://en.wikipedia.org/wiki/From_Beyond_\(film\).](http://en.wikipedia.org/wiki/From_Beyond_(film).) And we haven’t even touched on the theoretical concept of “machine revision”, which would be an essential part of any theory of machine translation.

The ability to systematise and analyse the material appears to be totally beyond machine translation at its current stage of development, even in the context of the perhaps exaggerated claims regarding the capacities of the emerging new generation of computers, hinting that real machine translation could be part of the overall massive expansion of the capabilities of computers currently under way.

As is well-known, a central part of Chomsky's early, very influential linguistic theory as it emerged in the 1950's and 1960's involved the presence in the brain of a tangible, isolatable "language acquisition device (LAD)", which would have been ideal for machine translation research and development. More recent investigators point out that the term language covers a number of different abilities, and that the relevant neural substrates are located in different parts of the cortex, more than one operating at the same time, especially if we include semantics. The range of meanings for individual morphemes or words may be spread widely, with the left and right hemispheres holding different aspects of the meaning. Therefore it may be argued that no LAD as such actually exists, and that the internal processes providing the abilities to learn, understand, and use languages are spread out all over the brain, analogous to the way files are scattered over computer hard drives.

Meanwhile, Makkai's view of language acquisition may be applied to explain why machine translation is currently a mirage and likely to remain so. One can view computers as caught on a treadmill of soaking up ever-increasing quantities of "idiomatic chunks", without any prospect of moving to the next stage. It might be suggested to computer engineers, experts, and technicians, therefore, that further machine translation research should be put on hold until they produce a computer that can duplicate ALL functions of the human brain, placing the ball firmly in their court. In this context we might note that as this is being written up, Brean 2014 reports that a billion-dollar European effort to model the human brain in a supercomputer, the Human Brain Project, is in danger of collapsing amid skepticism as to whether it is even possible. At issue is the idea of recreating a brain, neuron by neuron, in a powerful computer, and then seeing if it behaves like a real brain, the most complex object known to science. This idea is based on advances in both neuroscience and computing power, and attempts to synthesise them.

REFERENCES

- BREAN, JOSEPH. <http://news.nationalpost.com/2014/07/08/a-billion-dollar-european-effort-to-model-the-human-brain-in-a-supercomputer-is-in-danger-of-collapsing/>. (Accessed 10 July 2014).
- CHOMSKY, NOAM. 1957. *Syntactic structures*. The Hague: Mouton.
- . 1959. Reviews: *Verbal behavior* by B. F. Skinner. *Language* 35 (1): 26–58. JSTOR411334.
- . 1964. *Current issues in linguistic theory*. The Hague: Mouton.
- . 1965. *Aspects of the theory of syntax*. Cambridge: MIT Press
- COULSON, MICHAEL. 1973. *Teach yourself Sanskrit*.
- Economist*, January 5, 2013, Machine translation: Conquering Babel: Simultaneous translation by computer is getting closer. <http://www.economist.com/news/science-and-technology/21569014-si...neous-translation-computer-getting-closer-conquering-babel/> (Accessed 8 July 2014)

- LAMB, SYDNEY. 2004. Translation and the structure of language. In *Language and reality*: 48-68, ed. by Jonathan Webster. London & New York: Continuum.
- LEONHARDT, JÜRGEN. 2013. *Latin: Story of a world language*. Tr. by Kenneth Kronenberg. Cambridge: Belknap Press.
- LOMBORG, BJØRN. 2001. *The skeptical environmentalist*. Cambridge: Cambridge University Press.
- MAKKAI, ADAM. 2009. On redefining the idiom. *LACUS forum XXXVI: Mechanisms of linguistic behavior*, 215-27, ed. by Patricia Sutcliffe, Lois Stanford, and Arle Lommel. Houston, TX: LACUS.
- MELBY, ALAN. 2012. Human and machine translation quality: Definable? Achievable? Desirable? LACUS XXXIX Presidential Address.
- ORR, ROBERT. 2010. Lexicography meets cognitive linguistics. Review of Eugene Rivelis, Как возможен двуязычный словарь? 'How is the bilingual dictionary possible?' *Stockholm Slavic studies* 36. Stockholm: Stockholm University, 2007, (including English summary "Dictionary in the light of cognitive linguistics"). Canadian Slavonic Papers LII 3-4: 417-25.
- . In press. Historical linguistics and climate change. To appear in *LACUS forum XLI*.
- PLIMER, IAN. 2009. *Heaven and Earth. Global warming: The missing science*. London: Quartet Books.
- RIVELIS, EUGENE. 2007. Как возможен двуязычный словарь? (How is a bilingual dictionary possible?) *Stockholm Slavic studies*, 36. Stockholm: Stockholm University, 2007. Including English summary: Dictionary in the light of cognitive linguistics.
- STRINGER, CHRIS. 2012. *Lone survivors*. New York: St Martins
- CANADIAN TRANSLATORS, TERMINOLOGISTS AND INTERPRETERS COUNCIL. Machine translation: A word of caution. <http://www.cttic.org/mission.asp>. (Accessed 29 May 2014)

This article was first published at lacus.weebly.com.



LACUS FORUM
Journal of the Linguistic
Association of Canada and the
United States

VOLUME 40

NUMBER 3, 2020

CONTENTS



- | | |
|---|----|
| 10. DOMAIN OF CONTROL AND THE UNDERSTANDING OF HUMOR
<i>Douglas W. Coleman</i> | 1 |
| 11. SIGNALING SUBJECT MATTER AND PRESENTATIONAL COHERENCE
RELATIONS IN DISCOURSE: A CORPUS STUDY
<i>Debopam Das & Maite Taboada</i> | 8 |
| 12. THE METAPHORS OF “FACE” AND “VOICE” IN THE
CANADIAN DEBATE ON INTERNET PRIVACY
<i>Irena Radišević and Magda Stroińska</i> | 21 |
| 13. PROPOSITIONAL TRUTH, DECEPTION AND
CONSEQUENTIALISM IN THE LABELING OF LIES
<i>Emily Warnott & Douglas W. Coleman</i> | 31 |
| 14. A LINGUISTIC PERSPECTIVE ON A MULTILINGUAL ESL/EFL TEACHER
<i>Jacqueline Nenchin</i> | 40 |



DOMAIN OF CONTROL AND THE UNDERSTANDING OF HUMOR

DOUGLAS W. COLEMAN
University of Toledo

Abstract: Theories of language separate language from context by assumption.

Keywords: humor, hard-science linguistics, human linguistics, domain of control, orthoconcepts, domain confusion, real-world knowledge and understanding

Languages: English

THEORIES OF LANGUAGE SEPARATE LANGUAGE FROM CONTEXT BY ASSUMPTION. This happens because they first create language itself by assumption. Saussure noted this when he wrote (1959:8):

Other sciences work with objects that are given in advance and that can be considered from different viewpoints; but not linguistics. ... Far from it being the object that antedates the viewpoint, it would seem that it is the viewpoint that creates the object; besides, nothing tells us in advance that one way of considering the fact in question takes precedence over the others or is in any way superior to them.

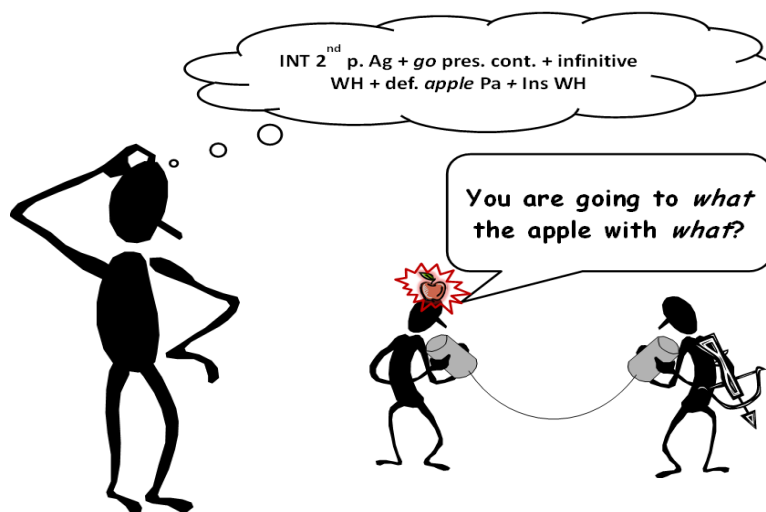


Figure 1. *The Fatal Disconnect between the Abstraction of Language and the Context in which People Communicate.*

1. DOMAIN CONFUSION IN THE CONSIDERATION OF SPEECH, LANGUAGE, AND CONTEXT. Typically, it is assumed that language is out there to be observed within a context. However, language, whichever “way of considering the fact in question” we take it to be, is not a physical domain entity. Language is a logical abstraction, very unlike a scientific abstraction. Language is not a generalization of real-world properties of physical entities which exist in advance, but is created by the viewpoint of the observer. Thus, “objects of language,” as Saussure called them, project properties of the observer out onto the world. It simply does not make sense to say that language exists in or can be placed in a real-world context. A non-physical thing cannot have a physical location. The disconnect is serious (**Figure 1**).¹ The typical way of thinking about language and context conflates willy-nilly logical domain abstractions and real-world physical objects. For further discussion of the general theoretical difficulties that come along with the confusion in linguistics between scientific and logical abstractions, see Coleman (2009) and Yngve (1996:24, 45-46, 109-110).

In a Hard-science Linguistics (HSL) framework (Yngve 1996:*passim*), we observe real-world entities; we do not call the creation of objects by assumption — words, sentences, etc. — “observation.” We look at the raw speech, the sound waves produced by articulatory gestures; as such, speech is, in Saussure’s terms, given in advance. We also look at other elements of the real-world context surrounding the speech; these are also given in advance. When we place speech (as a sound signal) and other observable behaviors of people in their real-world context of the people communicating in their physical surroundings, we avoid domain confusion.

When we create scientific abstractions (generalizations from the observation of real-world objects and events), the process is almost the reverse of the typical approach in linguistics. Instead of projecting our properties out onto the world, creating objects as a result of our viewpoint, we attempt to create an understanding in ourselves (a property of the observer) that reflects some real-world entity or property.

This paper will discuss such problems particularly as they relate to understanding in context, expanding on the work of Sypniewski (2010), who looked primarily at the role of expectations in the understanding of humor. This paper, which takes his paper as a starting point, will instead focus on the general relevance of context, showing how the HSL framework deals with the role of context in understanding in a non-domain-confused way.

2. ONE POTATO CHIP? A (black-and-white) New Yorker cartoon shows a scene with two children walking away from the door of a house (various details make it an archetypal house front door). We see a well-cropped lawn, nearly symmetrical shrubs on each side of the front steps, a sidewalk leading away from the door, a fence and a tree in the background — all allowing us to infer the scenario occurs in a typical suburban neighborhood. The sky is dark; a full moon is visible, establishing it as a night-time event. There is a jack-o-lantern on the front step. Both children are wearing masks. One of them, a girl, is in a long black dress and is wearing a tall pointed hat with a brim and a buckle on the front of it. The other, a boy, is wearing pants, shirt, and hood of the same (lighter) shade, with two horns protruding from the hood. Both are carrying squarish paper bags, looking down inside them. The girl is saying, “One potato chip?” (*Cartoons from the New Yorker*, 2009).

¹ It doesn’t really matter if a reader disagrees with the traditional-grammar representation in the thought balloon in **Figure 1**. Whatever representation of *language* we try to apply, it will be a representation of something non-real-world. We will not be able to escape the domain confusion of trying to place non-physical entities of language in a physical location. The only way out is to stick to representing real-world entities.

3. A LINKAGE DESCRIPTION OF A TRICK OR TREAT INTERACTION. In an HSL framework, we enumerate the relevant real-world elements in the form of a *linkage*, a model of the relevant physical-domain entities. The key elements for a trick-or-treat linkage could be given as in (1).

$$(1) \quad [\text{Trick or Treat}] = [\text{Child}_1] + \dots + [\text{Child}_n] + \\ [\text{Costume}_1] + \dots + [\text{Costume}_n] + \\ [\text{Goodie Bag}_1] + \dots + [\text{Goodie Bag}_n] + \\ [\text{Treat}_1] + \dots + [\text{Treat}_n] + \\ [\text{Front Door on Halloween}] + [\text{Resident}]$$

The square brackets in (1) identify models of physical systems that we take as relevant to our description of the events in question.² The *linkage* as a whole we label [Trick or Treat]. [Child₁] to [Child_n] and [Resident] are the *participants*. [Costume₁] to [Costume_n], [Goodie Bag₁] to [Goodie Bag_n], and [Treat₁] to [Treat_n] are the *props*. [Front Door on Halloween] is the *setting*. We do not list here the *channels* (energy flow and means of energy flow within the linkage), but they include the sound of the participants' speech, the light waves from speaker to hearer / from an object to one of the people, and so on — even the kinetic energy involved in moving [Treat₁] to [Goodie Bag₁], and so on. See Yngve (1996:126-133; 2007:*passim*).

4. AN HSL DESCRIPTION OF THE VIEWER'S UNDERSTANDING OF THIS CARTOON. We model the viewing of the cartoon through an observing linkage (Yngve, 2006:*passim*); see (2).

$$(2) \quad [\text{Cartoon Viewing}] = [\text{Cartoon}] + [\text{Viewer}]$$

The viewer of the cartoon can directly observe (drawn representations of) all of the above except the treats and the resident. The viewer thus forms an understanding of many of the key elements of a trick or treat linkage when looking at the cartoon. See (3).

$$(3) \quad [\text{Viewer}] < [\text{Front Door on Halloween}] > \\ [\text{Viewer}] < [\text{Child}_1] < \text{wear/Costume} >, < \text{carry/Goodie Bag} > > \\ [\text{Viewer}] < [\text{Child}_2] < \text{wear/Costume} >, < \text{carry/Goodie bag} > > \\ [\text{Viewer}] < [\text{Door on Halloween}] < \text{nighttime} >, < \text{Halloween} >, < \text{residential exterior} > > \\ [\text{Viewer}] < [\text{Goodie Bag}_1] < \text{contain/Treat} > > \\ [\text{Viewer}] < [\text{Goodie Bag}_2] < \text{contain/Treat} > > \\ [\text{Viewer}] < [\text{Costume}_1] < \text{witch} > > \\ [\text{Viewer}] < [\text{Costume}_2] < \text{devil} > > \\ [\text{Viewer}] < [\text{Treat}_1] < \text{location/Goodie Bag} >, < \text{item/Potato Chip} > > \\ [\text{Viewer}] < [\text{Treat}_2] < \text{location/Goodie Bag} >, < \text{item/Potato Chip} > >$$

In HSL, we model the viewer's understanding in terms of orthoconcepts (Yngve, 2007; Coleman & Sypniewski, To appear). In a case like [Viewer] < [Front Door on Halloween] >, the notation is fairly simple: [Viewer] identifies a physical system; < [Front Door on Halloween] >, one of its

² Whether we are correct about which elements are relevant is an empirical question. We do not assign the elements based on *a priori* criteria, but treat them as a hypothesis until we find how accurately our description fits our observations.

properties. The angle brackets identify $\langle [\text{Front Door on Halloween}] \rangle$ as a property. The square brackets inside the angle brackets show that the property is an orthoconcept, the viewer's understanding of a front door on Halloween. In the case of $[\text{Viewer}] \langle [\text{Costume}_1] \langle \text{witch} \rangle \rangle$, the notation is more complex. The part in angle brackets again identifies a property of the viewer, $\langle [\text{Costume}_1] \langle \text{witch} \rangle \rangle$. By itself, $[\text{Viewer}] \langle [\text{Costume}_1] \rangle$ would identify the viewer's understanding of a costume. With the addition of $\langle \text{witch} \rangle$ after $[\text{Costume}]$, $[\text{Viewer}] \langle [\text{Costume}_1] \langle \text{witch} \rangle \rangle$ represents the viewer's understanding of a costume as having the property of being a witch costume. $[\text{Viewer}] \langle [\text{Goodie Bag}_2] \langle \text{contain/Treat} \rangle \rangle$ represents the viewer's understanding that there is a goodie bag containing a treat. The general property the viewer assigns to his understanding of a goodie bag is $\langle \text{contain}/X \rangle$ where X is a possible value representing one of the bag's contents — here, the value of X is *Treat*.

5. HOW THE HSL DESCRIPTION RELATES TO THE ACTIVATION OF MEMORY SYSTEMS. We can see this representation in terms of what parts of the viewer's memory system is activated. If the viewer of the cartoon is familiar with trick-or-treating, he has an understanding that we could represent as $[\text{Viewer}] \langle [\text{Trick or Treat}] \rangle$. In other words, he would have real-world knowledge containing the same information as in our model in (1). But as an orthoconcept representing his understanding of trick-or-treating, we would write it this way:

$$(4) \quad [\text{Viewer}] \langle [\text{Trick or Treat}] = [\textbf{Child}_1] + [\textbf{Child}_2] + \dots + [\textbf{Child}_n] + \\ [\textbf{Costume}_1] + [\textbf{Costume}_2] + \dots + [\textbf{Costume}_n] + \\ [\textbf{Goodie Bag}_1] + [\textbf{Goodie Bag}_1] + \dots + [\textbf{Goodie Bag}_n] + \\ [\textbf{Treat}_1] + [\textbf{Treat}_2] + \dots + [\textbf{Treat}_n] + \\ [\textbf{Front Door on Halloween}] + [\textbf{Resident}] \rangle$$

The difference between (1) and (4) is this: (1) is our model of an actual trick-or-treat interaction, while (4) is our model of the viewer's understanding of such an interaction. In this case we take them as the same, but we do not assume that this will always be the case.³

In (4), the elements that are activated in the memory system of the viewer as a result of his perception of the cartoon are shown in **boldface**. Except for $[\text{Resident}]$, every key element (in our model, every orthoconcept) is activated. This is sufficient to establish that the viewer's understanding of trick-or-treating will play a role in how he interprets the cartoon. We thus can say that the viewer's understanding of trick-or-treating (modeled in terms of the orthoconcept $[\text{Viewer}] \langle [\text{Trick or Treat}] \rangle$) creates a *domain of control* that affects the viewer's interpretation (Yngve 1996:276):

The active procedures and those that stand ready or nearly ready to be triggered constitute a region... that we will call the domain of control.

The viewer's understanding of trick-or-treating also contains a number of other properties that are activated when this orthoconcept —the property $[\text{Viewer}] \langle [\text{Trick or Treat}] \rangle$ — is activated. These include his understanding of a basic trick-or-treat interaction, modeled as an orthoconcept of a linkage task procedure (5).

³ For example, it might involve a situation in which a person travels to an unfamiliar situation, where some everyday interaction is slightly different, resulting in dissonance between the actual properties of the interaction and the understanding / expectations of a participant.

- (5) [Viewer]<[Trick or Treat]<Main> =
 [Child_i]<approach/[Front Door at Halloween]> →
 [Child_i]<knock> →
 [Resident]<greet> →
 [Child_i]<emit sound of “Trick or treat!”> →
 [Child_i]<extend/[Goodie Bag]> →
 [Resident]<give/[Treat_i]> →
 [Resident]<close interaction> →
 [Child_i]<depart>>

Most of the subtasks in (5) have partial activation resulting from what the viewer can see in the cartoon (again, note **boldface**).⁴ The children are walking away from the front door, which most strongly activates the last step in the main trick-or-treat procedure. This means that activation spreads across earlier subtasks as well, including [Resident]<give/[Treat_i]>, the child having knocked, having said “Trick or treat”, etc.

Since the viewer has an understanding that the treat’s location is in the bag, and can detect gaze direction of the children in the cartoon (as looking down into their bags), he knows that the child who says, “One potato chip?” is referring to a treat given by the resident.

When I first showed this cartoon to a classroom of about 30 undergraduate students in linguistics, most found it mildly funny, because a single potato chip seems like a very stingy Halloween treat. However, one person laughed loudly. I asked her why she thought it was so funny and she replied, “You can’t eat just one!” Then almost everyone else started to laugh too. Her interpretation was affected by a secondary domain of control. The child in the cartoon saying “One potato chip?” was enough to activate her memory of the Lay’s potato chip slogan “Betcha can’t eat just one.”⁵ For most who viewed the cartoon, the activation caused by “one potato chip” was insufficient to create a secondary domain of control for the kind of linkage in which they had observed the Lays slogan. This is because the activation memory of the Lay’s slogan included many fewer converging signals than that for trick-or-treating.

The Lay’s slogan activated as a secondary domain of control for the one viewer, which allowed her to see that the “treat” of one potato chip was not just a Halloween treat, but also like a Halloween trick. However, the trick was played on the trick-or-treater by the resident — a reversal of roles. Since role reversal is a common feature of humor, this added understanding greatly enhanced the effect of the cartoon.

6. RELEVANCE, IRRELEVANCE, AND SEARCHING OVER A KNOWLEDGE-BASE. In a typical linguistic-theoretical account, we would say that the child’s “One potato chip?” was interpreted by means of context. We can’t usually go much further, because a language-focused account is domain-confused. As a result, it has no coherent way to relate its logical domain entities (words and grammar) with real-world entities of context. It can represent knowledge of the world in a knowledge-base. Once it has done so, however, it has to use *ad hoc* heuristics to know how to do

⁴ Although the viewer cannot see a treat in the cartoon, its presence is inferred, as are the recent presence of the resident of the house, the giving of the treat, and so on — see below, in this paragraph.

⁵ The original Lay’s “Betcha can’t eat just one” slogan was launched in 1961, through a series of humorous commercials and print ads starring Burt Lahr, best known as the Cowardly Lion in *The Wizard of Oz* (“Lay’s”, 2013). The slogan was most recently revived in 2001 in a television commercial starring Cal Ripken (“Lay’s Potato Chips Teams Up,” 2001).

a finite search over that knowledge-base and has to have some heuristic for determining which things represented in the knowledge-base are relevant and which are not.

This leads us to ask the following questions: *How does an HSL model predict which elements in a viewer's perceptual experience are deemed relevant and which are not?* and *How does it perform a search over a knowledge-base representation in order to find the necessary information to establish a domain of control?*

The answer is that an HSL account does not need to do either. When the viewer looks at the cartoon, he perceives, for example, a person in a long black dress (or robe). This could send activation to his memory of a witch, a monk, a professor in regalia, etc. This could send out further activations toward areas of the brain storing memories of the scene with the three witches from Shakespeare's *Macbeth*, Margaret Hamilton as the Witch of the West in *The Wizard of Oz*, a scene from the movie *Black Robe*, courtroom judges, professors in formal regalia, Peter O'Toole in *Goodbye Mr. Chips*, etc. The person is also wearing a tall, black pointed hat with a buckle on the front. This sends out activation that converges with other activations involving a witch, but not those involving a cleric, a judge, or a professor. The person wearing the robe and hat is a child. The activation from this aspect of the perceptual set converges with the earlier two where there are memories of a child in a witch costume.

Similarly, all the exterior elements depicted in the cartoon indicate the front of a suburban house. This could relate to cutting grass, door-to-door sales, the arrival of an EMT, and so on; in fact, activation spreads toward all these possibilities from the mere recognition of the setting. However, the cartoon shows that it is night, and memories of some of those events are not further activated.

When we look at all the aspects of the image that activate parts of a viewer's memory systems, only those involving a Halloween trick-or-treat are maximally activated. In HSL, we do not need a mechanism to determine relevance. The human memory system does it for us.

7. CLOSING REMARKS. The HSL framework way of dealing with problems of interpretation contrasts sharply with most theoretical approaches in linguistics in more than one way. First, as noted above, it avoids confusions between the logical-domain objects of language (words and grammar) and the physical domain of people communicating in a real-world environment. Second, by modeling only physical-domain entities (including people and their properties) instead of language, it can represent people's knowledge about context in a way that is fully integrated with how it models how they communicate. Third, and as a result, it does not face the problem of determining relevance of information as a knowledge-based addendum to a theory of language does when attempting to use context in understanding. An HSL model is thus consistent with an understanding of how memory is stored and accessed in the brain that does not need to make vague reference to the use of "context" in "language understanding." HSL instead situates people communicating in the real world, treating their communicative acts and the understanding that arises as a result of their past experience as a unified whole.

REFERENCES

- CARTOONS FROM THE NEW YORKER 2010*. 2009. Riverside, NJ: Andrews McMeel. [“One potato chip?” is also available / viewable at the Condé Nast Collection: http://www.condenaststore.com/-sp/One-potato-chip-New-Yorker-Cartoon-Prints_i8541032_.html].
- COLEMAN, DOUGLAS W. 2009. There Are three kinds of abstractions: Abstractions, damned abstractions, and damned lying abstractions. *LACUS Forum* 35: 109-31.
- , & BERNARD SYPNIEWSKI. In press. Orthoconcepts: How the properties they represent arise. To appear in *LACUS Forum* 37.
- Lay’s. 2013. Wikipedia. Accessed November 8, 2013: <http://en.wikipedia.org/wiki/Lay%27s>.
- Lay’s Potato Chips Teams Up With Baseball Great Cal Ripken, Jr. For New ‘Betcha Can’t Eat Just One’ TV Commercial That Debuts on Opening Day and Reveals A Surprise Change in the Lineup. 2001. Fritolay.com Press Release Archive. Accessed November 8, 2013: <http://www.fritolay.com/about-us/press-release-20010402.html>.
- SAUSSURE, FERDINAND DE. 1959. *Course in general linguistics*. Trans. by Wade Baskin. New York: McGraw-Hill.
- SYPNIEWSKI, BERNARD. (2007). Domain Confusion. *LACUS Forum* 33: 399-404.
- . 2010. Hard science linguistics looks at humor. Paper presented at the 2010 Ars Grammatica conference, Minsk State Linguistic University, Minsk, Belarus.
- YNGVE, VICTOR H. 1996. *From grammar to science: New foundations for general linguistics*. Philadelphia: John Benjamins.
- . 2006. Formalizing the observer in hard-science linguistics. *LACUS Forum* 32:267-76.
- . 2007. People, orthoconcepts, and dialog. *LACUS Forum* 34:313-19.

This article was first published at lacus.weebly.com.





SIGNALING SUBJECT MATTER AND PRESENTATIONAL COHERENCE RELATIONS IN DISCOURSE: A CORPUS STUDY

DEBOPAM DAS & MAITE TABOADA
Simon Fraser University

Abstract: In this study we examine how subject matter and presentational coherence relations in Rhetorical Structure Theory (Mann & Thompson 1988) are signaled in written discourse, and whether they differ quantitatively or qualitatively in terms of the signaling devices involved. By signaling we mean textual signals (discourse markers such as *although*, *because*, and *thus*, and also signals such as *tense*, *lexical chains*, or *punctuation*) that indicate a relation is present. We hypothesize that, because of their different nature, subject matter and presentational relations may be indicated by different signals, or at different frequencies. We conducted a corpus study examining 40 articles, comprising 1,306 relations, from the RST Discourse Treebank (Carlson, Marcu, & Okurowski 2002). We identified the signals for those relations and added a new layer of annotation to them, to include signaling information. Results from our corpus analysis show that subject matter and presentational relations do not differ quantitatively or qualitatively in terms of signaling. These findings, although negative, point to a number of theoretical possibilities about the validity and accuracy of subject matter and presentational relation classification.

Keywords: Rhetorical Structure Theory, subject matter relations, presentational relations, signals of relations, corpus study, RST Discourse Treebank

Languages: English

THE INTERPRETATION OF A TEXT requires not only an understanding of the meanings of individual discourse components (clauses, sentences, etc.), but also an understanding of how the meanings of those components are connected to each other. Coherence relations (also known as discourse or rhetorical relations) refer to the types of semantic or pragmatic connections that bind one discourse component to another. For example, in the following text,

- (1) John could not go to the party. He was busy with his work.

there are two components: (i) *John could not go to the party* and (ii) *He was busy with his work*. These components are connected to each other by a *causal* relation: John's inability to go to the party is caused by the fact that he was doing his work.

1. COHERENCE RELATIONS AND RHETORICAL STRUCTURE THEORY. Coherence relations have been extensively investigated in the framework of Rhetorical Structure Theory or RST (Mann & Thompson 1988). RST is a functional theory of text organization. It describes what parts a text is made of, what kinds of relationships exist between these parts, and how these parts are organized with respect to each other to constitute a coherent piece of discourse. RST originally emerged as computational theory for analyzing text structure, but later the use of RST has been extended to various other applications, including the analysis of spoken discourse. In RST, relations are defined through different fields, the most important of which is the *Effect* (achieved on the text receiver), referring to the intention of the writer (or speaker) in presenting their discourse. Relation inventories are open, and the most common relation taxonomies include names such as *Cause*, *Concession*, *Condition*, *Elaboration*, *Result* and *Summary*. Relations can be multinuclear, reflecting a paratactic relationship, or nucleus-satellite, a hypotactic type of relation. The names nucleus and satellite refer to the relative importance of each of the relation components.

Texts, according to RST, are built out of clausal units (smallest discourse components) that enter into rhetorical (coherence) relations with each other, in a recursive manner. Mann and Thompson proposed that most texts can be analyzed in their entirety as recursive applications of different types of relations. In effect, this means that an entire text can be analyzed as a tree structure, with clausal units being the branches and relations the nodes.

In **Figure 1**, we provide an RST analysis of a text taken from the RST Discourse Treebank (Carlson, Marcu, & Okurowski 2002).

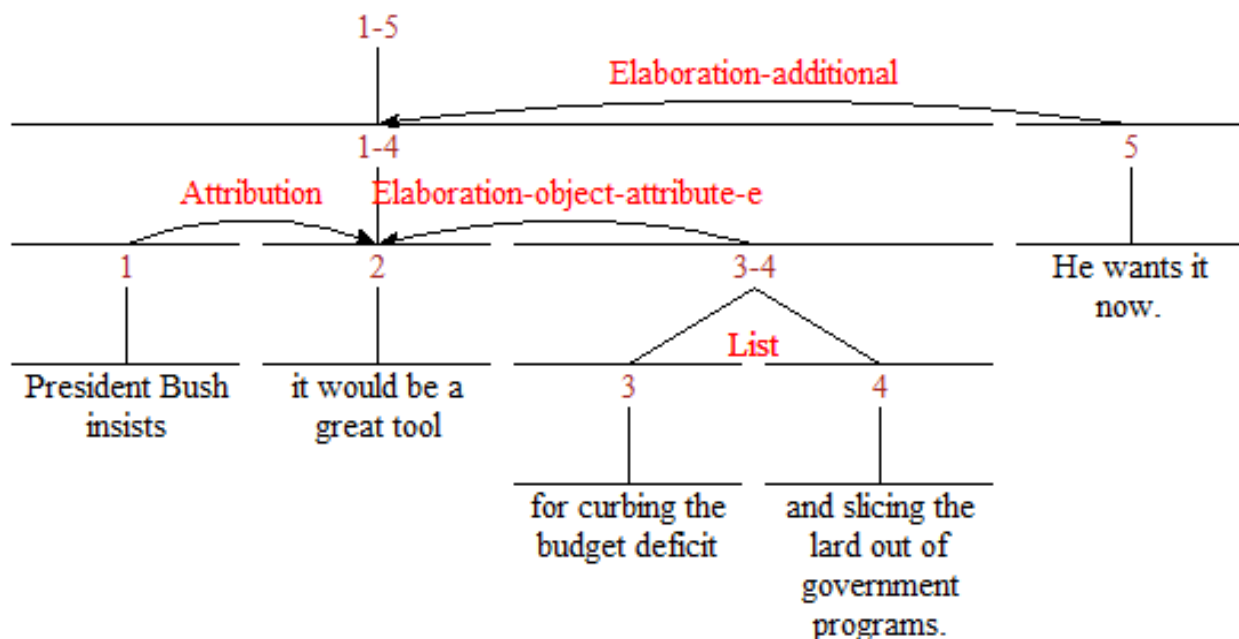


Figure 1. Graphic representation of an RST analysis

The RST analysis in **Figure 1** shows that the text comprises five spans which are represented by the cardinal numbers, 1, 2, 3, 4, and 5. In the diagram, the arrowhead points of

spans refer to the nuclei, and the arrow points away from another span that refers to the satellites. Span 1 (satellite) is connected to Span 2 (nucleus) by an *Attribution* relation, and together they make the combined span 1-2. Span 3 (nucleus) and 4 (nucleus) are in a multinuclear *List* relation, and together they make the combined span 3-4. Span 3-4 (satellite) is connected to span 1-2 (nucleus) by an *Elaboration* (more specifically, *Elaboration-object-attribute-e*) relation, and together they make the combined span 1-4. Finally, span 5 (satellite) is connected to span 1-4 (nucleus) by an *Elaboration* (more specifically, *Elaboration-additional*) relation. For more information about the relational definitions, see Carlson & Marcu (2001).

2. SUBJECT MATTER AND PRESENTATIONAL RELATIONS IN RST. Relations in RST, in terms of their intended effects, are divided into two groups: subject matter relations (e.g., *Elaboration*, *Circumstance*, *Solutionhood*, *Cause*, *Restatement*) and presentational relations (e.g., *Motivation*, *Background*, *Justification*, *Concession*). In subject matter relations, the text producer intends the reader to understand the relation. In presentational relations, on the other hand, the intended effect is to increase some inclination in the reader (positive regard, belief, or acceptance of the nucleus). The distinction is related to the semantic/pragmatic divide proposed by van Dijk to classify discourse connectives according to what type of relation they signal: “[p]ragmatic connectives express relations between speech acts, whereas semantic connectives express relations between denoted facts” (van Dijk 1979: 449). The distinction is also represented by the following labels (corresponding to subject matter and presentational relations, respectively):

- External and Internal (Halliday and Hasan 1976a, Martin 1992).
- Semantic and Pragmatic (Sanders, Spooren, and Noordman 1992a, 1993, Schiffrin 1987, van Dijk 1979, 1977).
- Ideational and Interpersonal. This is a distinction proposed in Systemic Functional Linguistics (Halliday 1985), and applied to coherence relations by others (Maier and Hovy 1993, Redeker 2000). The SFL distinction includes a third category, Textual, which does not fit clearly against the other dual classifications.
- Experiential and Rhetorical (Benwell 1999).
- Causal and Diagnostic, restricted to relations linked by connectives such as *because*, e.g., *The streets are wet because it is raining* versus *It is raining, because the streets are wet* (Traxler et al. 1997).

As it happens with most attempts at classification, the different classifications above represent distinctions that are not fully equivalent. The semantic/pragmatic distinction proposed by van Dijk (1979) separates relations between propositions (semantic) from those between speech acts (pragmatic). This distinction seems to be orthogonal to the subject matter/presentational divide in RST, since both propositions and speech acts can be in the same types of relations. Events denoted by propositions may be related through *Cause* (subject matter type) or *Background* (presentational type) relations; speech acts can be equally related through either type of relation. RST has concentrated on intended effects, more than on how they are achieved, whether it is through presenting relations containing events, facts, propositions or speech acts.

3. RESEARCH GOALS. In this study, we examine how subject matter and presentational relations are signaled, and whether they differ quantitatively and qualitatively in terms of the types of signaling involved. By signaling we mean textual signals that indicate a relation is present. These include

discourse markers or DMs (e.g., *although*, *because*, *since*, *thus*), but also signals such as *tense*, *lexical chains*, or *punctuation*. We hypothesize that, because of their different nature, subject matter and presentational relations may be indicated by different types of signals or at different frequencies. Because subject matter relations are meant to be recognized as such, they may have explicit signals, whereas in presentational relations the connection is more abstract, and the effect probably stems more out of the content than the form.

Research on coherence relations has often focused on cues that indicate the presence of a relation, or the lack of such cues, as many relations seem to be unsignaled or implicit. Whereas it is true that many coherence relations are not signaled by a DM, it is also often the case that other signals have been understudied (Taboada and Mann 2006, Taboada 2009). We explore how many and what types of cues can be found if we study signaling beyond DMs, and how they are used to signal subject matter and presentational relations. For this purpose, we undertake a large-scale signaling annotation project, in which we first select a corpus already annotated for coherence relations, then examine the relations in the corpus, and finally add information on how those relations are signaled, including a variety of possible signals.

4. SIGNALS FOR RELIABLE ANNOTATION. The most important aspect of the annotation was to select and classify the types of signals to annotate. We built our taxonomy of signals based on the different classes of relational markers that we identified in our preliminary corpus work (Das and Taboada 2013, Taboada and Das 2013), or that have been mentioned in previous studies on the signaling in discourse (Bateman et al. 2001, Blakemore 1987, 1992, 2002, Corston-Oliver 1998, Dale 1991b, a, Fraser 1990, 1999, 2006, 2009, Halliday and Hasan 1976b, Knott 1996, Lapata and Lascarides 2004, Le Thanh 2007, Lin, Kan, and Ng 2009, Louis et al. 2010, Marcu 1999, 2000, Maziero et al. 2011, Pitler, Louis, and Nenkova 2009, Polanyi et al. 2004, Prasad, Joshi, and Webber 2010, Sanders, Spooren, and Noordman 1992b, 1993, Schiffrin 1987, 2001, Scott and de Souza 1990, Sporleder and Lascarides 2005, Theijssen 2007).

The taxonomy of signals is organized hierarchically in three levels: *signal class*, *signal type*, and *specific signal*. The top level, *signal class*, has tags representing three major classes of signals: *single*, *combined*, and *unsure*. For each class, a second level of types is defined; for example, the class *single* is divided into nine types (*DM*, *reference*, *lexical*, *semantic*, *morphological*, *syntactic*, *graphical*, *genre*, and *numerical* features). Finally, the third level in the hierarchy refers to the specific signals; for example, *reference type* has four specific signals: *personal*, *demonstrative*, *comparative* and *propositional reference*. The taxonomy of signals is illustrated in **Figure 2**. Note that subcategories are only illustrative, not exhaustive. More detail on the taxonomy can be found in Taboada and Das (2013)¹.

In addition, we find that many relations are indicated by combined signals. Combined signals are made of two or more single signals which work together to indicate a particular relation. We have identified 10 broad types of combined signals²: (i) *entity + positional*, (ii) *entity + syntactic + lexical*, (iii) *entity + syntactic*, (iv) *graphical + syntactic*, (v) *lexical + positional*, (vi) *lexical + syntactic + positional*, (vii) *lexical + syntactic*, (viii) *syntactic + lexical*, (ix) *syntactic + positional*, and (x) *semantic + syntactic*.

¹ http://www.sfu.ca/~mtaboada/docs/Taboada_Das_Dialogue_and_Discourse_2013.pdf#!

² For more detail on combined signals, see Taboada and Das (2013).

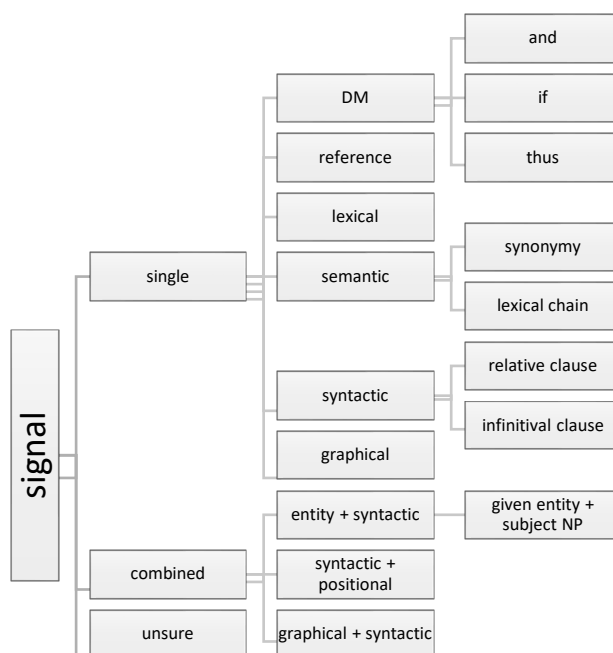


Figure 2. *Hierarchical taxonomy of signals*

5. ANNOTATION PROCESS. For our corpus, we have selected the RST Discourse Treebank or RST-DT (Carlson, Marcu, and Okurowski 2002) which comprises 385 Wall Street Journal articles (financial reports, general interest stories, editorials, etc.) annotated for coherence relations. We chose to use the RST-DT because it is the only available large-scale corpus of RST relations for written texts. The annotated texts in the RST-DT are stored as LISP files which can be opened with RSTTool (O'Donnell 1997) for visual representation.

In our preliminary corpus study, we annotated 1,306 relations in 40 articles which constitute approximately ten percent of the 385 articles in the RST-DT. The annotation process involves examining each relation in the corpus and, assuming the existing relation annotation is correct, searching for cues that indicate that such a relation is present. In some cases, more than one cue may be present. When confronted with a new instance of a particular type of relation, we consult our taxonomy of signals, and find appropriate signal(s) that could best function as the indicator(s) for that relation instance. If our search led us to assigning an appropriate signal (or more than one appropriate signal) to that relation, we declared success in identifying the signal(s) for that relation. If our search does not match any of the signals in the taxonomy, then we examine the context (comprising the discourse components) to discover any potential new signals. If a new signal is identified, we include it in the appropriate category in our existing taxonomy. In this way, we proceed through identifying the signals of the relations in the corpus, and, at the same time, keep on updating our taxonomy with new signaling information, if necessary. We found that after approximately 20 files, or 650 relations, we added very few new signals to the taxonomy.

In the coding task, we provided annotations for signals of coherence relations, or in other words, we added signaling information to the existing relations from the RST-DT. For this purpose, we extracted the signals identified, and documented them along with the relevant information about the relation in question, the document number (the file to which the relation belongs), the status of the spans (nucleus or satellite), and the span numbers (the location of the

spans in the text). We annotated the signaling information in a separate Excel file, since RSTTool does not allow for multiple levels of annotation. For more information about the annotation process, see Das and Taboada (2013)³ and Taboada and Das (2013).

6. RESULTS. Among the 1,306 relations examined, the distribution of signaled relations (indicated either by DMs or by some other signals) and unsignaled relations (not indicated by any signal) is provided in **Table 1**.

Relation	Tokens	Percentage
Signaled relation	1,129	86.45%
Unsignaled relation	177	13.55%
Total	1,306	
Relations indicated by a DM	251	22.23%
Relations indicated by other signals	878	77.77%
Total	1,129	

Table 1. *Distribution of signaled and unsignaled relations*

The results show that 1,129 relations (86.45%) out of all the 1,306 relations examined are signaled, either by a DM or with the help of some other signaling device. On the other hand, no significant signals are found for the remaining 177 relations (13.55%).

Among the 1,129 signaled relations, we found that DMs are used to signal 251 relations (22.23% of the signaled relations), while 878 relations (77.77% of the signaled relations) are indicated with the help of some other signals.

For the 251 instances of relations signaled by a DM, we have found 58 different DMs. Examples of some of these DMs include *after*, *although*, *and*, *as*, *as a result*, *because*, *before*, *despite*, *for example*, *however*, *if*, *in addition*, *moreover*, *or*, *since*, *so*, *thus*, *unless*, *when* and *yet*. For a full list of these extracted markers, see Taboada and Das (2013).

For the 878 signaled relations without DMs, we have found that wide varieties of signals are used to indicate them. These signals include all the eight types of signals other than DMs mentioned in Section 3, along with numerous specific signals belonging to each type. In our corpus analysis, 81.67% of the signaled relations (922 out of 1,129 signaled relations) are exclusively indicated by a single signal (including DMs), whereas 5.67% of the signaled relations (64 out of 1,129 signaled relations) are indicated by a combined signal. In addition, the distribution also shows that 12.49% of the signaled relations (141 out of 1,129 signaled relations) contain multiple signals⁴.

In terms of relation types, we divided the relations in the RST-DT into three groups: subject matter, presentational, and undetermined relations, as shown in **Table 2**.

³ http://homes.chass.utoronto.ca/~cla-acl/actes2013/Das_and_Taboadas-2013.pdf

⁴ Multiple signals refer to two or more types of signals (single or combined) which are separately used to indicate a particular relation instance. For more detail, see Taboada and Das (2013).

Subject matter	Presentational	Undetermined
Elaboration, Circumstance, Solutionhood, Cause, Result, Purpose, Condition, Otherwise, Interpretation, Evaluation, Restatement, Summary, Sequence, Contrast, Consequence, Comparison, Preference, Analogy, Proportion, Contingency, Hypothetical, Manner, Means, Topic-Comment, Temporal, Topic-Shift, Textual Organization	Motivation, Antithesis, Background, Enablement, Evidence, Justify, Concession, Attribution, Conclusion, Comment, Explanation-argumentative, Reason	Example, Definition, List, Disjunction, Same-Unit

Table 2. *Relation classification on subject matter/presentational/undetermined basis*

For subject matter and presentational relations, we mainly followed Mann and Thompson’s (1988) original classification of RST relations. For the new relations, which were not part of the original RST taxonomy but used exclusively for annotating the RST-DT, we examined the definitions of those relations from the RST-DT annotation manual (Carlson and Marcu 2001), and assigned them to what we believed was the most suitable category. However, there were also some new relations whose definitions did not fit adequately to any of the two major relation types (i.e., subject matter or presentational), and hence, we assigned them to a new category called undetermined relations.

We also found (as shown in **Table 3**) that among the 1,306 relations examined there are 762 subject matter and 358 presentational relations, along with the remaining 186 undetermined relations.

Relation type	Tokens	Percentage
Subject matter	762	58.35%
Presentational	358	27.41%
Undetermined	186	14.24%
Total	1,306	

Table 3. *Distribution of relation types*

The distribution of relation types with respect to signaling is provided in **Table 4**.

Relation type	Tokens	# relations signaled	# relations unsignaled
Subject matter	762	660 (86.61%)	102 (13.39%)
Presentational	358	300 (83.80%)	58 (16.20%)
Undetermined	186	169 (90.86%)	17 (9.14%)
Total	1,306	1,129 (86.45%)	177 (13.55%)

Table 4. *Distribution of relation types for signaled and unsignaled relations*

As **Table 4** shows, out of the 762 subject matter relations 660 relations (86.61%) are signaled while the remaining 102 (13.39%) relations are not signaled. For presentational relations, out of 358 relations 300 relations (83.80%) are signaled and 58 (16.20%) relations are unsignaled. Finally, the breakdown for the 186 undetermined relations is into 169 relations (86.45%) signaled and 17 relations (9.14%) unsignaled.

Furthermore, analyzing the distribution of signaled relations of each relation type (as shown in

Table 5), we found that among the 660 signaled subject matter relations 135 relations (20.45%) are indicated by a DM while the remaining 525 relations (79.55%) are indicated by signals other than DMs. For presentational relations, the distribution is between 58 (19.33%) relations with DMs and 242 (80.67%) relations with other signals, out of a total of 300 signaled relations.

Relation type	Signal type	Tokens	Percentage
Subject matter	Indicated by DMs	135	20.45%
	Indicated by other signals	525	79.55%
Total		660	
Presentational	Indicated by DMs	58	19.33%
	Indicated by other signals	242	80.67%
Total		300	

Table 5. *Distribution of signaled relation types indicated by a DM and by other signals*

The results (see **Table 6**) also show that the most frequently used signals for subject matter relations include DMs such as *and*, *if*, and *but*, and other signals such as *entity*, *semantic*, and *syntactic* features. For presentational relations, DMs such as *but*, *because*, and *although*, and other signals such as a *syntactic* feature are the most common signals.

Relation type	Signal type	Most common signal
Subject matter	Indicated by DMs	and, if, but
	Indicated by other signals	entity, semantic, syntactic
Presentational	Indicated by DMs	but, because, although
	Indicated by other signals	syntactic

Table 6. *Most common signals for relation types*

Finally, signaling by the most frequently used individual relations from each relation type is provided in **Table 7**.

Relation type	Relation	DM	Other signals
Subject matter	Circumstance	Yes	syntactic, lexical
	Cause	Yes	semantic
	Condition	Yes	lexical, syntactic
	Elaboration	Yes	entity, semantic, syntactic, genre
	Purpose	-	syntactic
Presentational	Attribution	-	syntactic
	Background	Yes	lexical, semantic, morphological
	Antithesis	Yes	semantic
	Evidence	-	lexical
	Reason	Yes	-

Table 7. *Distribution of most frequently signaled individual relations by type*

We found that almost every subject matter relation (except a few, such as *Purpose*) is signaled

by a DM, while most of the presentational relations are signaled by a DM. In terms of other signals, almost every subject matter relation is signaled by other signals, while the same is true for the presentational type. That is, most individual relations are indicated by other signals, whereas *Attribution* and *Evidence* are exclusively signaled by other signals.

7. DISCUSSION. In an effort to investigate the signaling of coherence relations beyond DMs, we found out that the majority of the relations present in a written discourse are signaled: in our corpus analysis, 1,129 (86.45%) relations out of the 1,306 relations examined are signaled. We also observed that coherence relations can well be indicated by signals other than DMs: in our study, out of the 1,129 signaled relations, 878 (77.77%) relations contain a signal other than a DM. Furthermore, the signals of coherence relations in written discourse are diverse in nature and can be broadly classified into major groups, such as *DM*, *reference*, *lexical*, *semantic*, *syntactic*, *graphical* and *genre* features. The individual signal groups also contain different specific signals in themselves. For example, the feature *syntactic* includes specific signals such as *relative clause*, *participial clause* and *parallel syntactic construction*.

We would like to point out that what we have found are *positive* signals, that is, indicators that a relation exists. This does not mean that such signals are used exclusively to indicate that relation (as we have seen in the many-to-many correspondences between relations and their signals). It also means that the signals, as textual devices, are not exclusively used to mark a relation; they may well have other purposes in the text. In a sense, this means that the signals are compatible with a relation, not necessarily indicators of that relation exclusively.

Examining the signaling of subject matter and presentational relations, we observed that there is not much statistical difference between the two relation types: around 85% of each type of relation (86.61% for subject matter and 83.80% for presentational relations) present in a corpus are indicated by some linguistic signals. Furthermore, among the signaled relations of each type, around 20% of the relations (20.45% for subject matter and 19.33% for presentational relations) are signaled by a DM while around 80% of relations (79.55% for subject matter and 80.67% for presentational relations) are indicated by signals other than DMs.

Qualitatively, we also found that the signaling of two relation types do not show any noticeable difference. For example, both subject matter and presentational relations are signaled by DMs as well as by other signals. Furthermore, although there are a few differences between the two relation types in using certain signals, the majority of signals for both the subject matter and presentational relations overlap, as both relation types are conveyed through the same textual signals, either a specific DM or certain other signal types.

Finally, for the 177 relations for which we could not identify a signal, there are three different reasons why we believe that is the case. First of all, in some cases we found that there were errors in the existing annotation of relations in the RST-DT, and a relation was postulated, whereas we would not have annotated a relation. In those cases, the lack of signaling is perfectly understandable. Secondly, some of the RST-DT relations are not true RST relations. Relations such as *Comment* or *Topic-shift*, in our opinion, belong in the realm of discourse organization, not together with relations among propositions. Again, finding no signals in those cases is not surprising, as such phenomena are not likely to be indicated by the same type of signal as coherence relations proper. Finally, in many cases, one or both of the annotators had a sense that the relation was clear but could not pinpoint the specific signal used. This is the case with tenuous entity relations, or relations that rely on world knowledge.

In sum, our findings show negative results; i.e., there are no significant quantitative or qualitative differences between subject matter and presentational relations in terms of signaling.

However, these null findings point to a number of theoretical possibilities. First, subject matter and presentational relations can differ in their intended effects, but the difference in their intended effects may not actually lead to different kinds of signaling. In other words, signaling of coherence relations may be independent of their intended effects; otherwise, the difference in effects should have been reflected in the use of signals as well. Second, the dichotomy between subject matter and presentational relations may be theoretically invalid, i.e., relations may not differ in their intended effects. Finally, even if the subject matter vs. presentational classification is correct, or even if relations do differ in their intended effects, the assignment of individual relations to each type may not be absolutely correct, and the classification may require further review.

8. CONCLUSION. The purpose of this paper was to examine whether subject matter and presentational relations in RST differ in terms of signaling. Our results showed that quantitatively there is not a significant difference between the two relation types in terms of how often they are signaled and unsignaled in a text, and also as to the proportion of signals that are discourse markers (DMs) versus other linguistic devices. We also found that the qualitative difference between the two types is also minor in terms of the types of signals (both DMs and other signals) used for them. Thus, we conclude that subject matter and presentational relations do not differ quantitatively or qualitatively in their signaling. However, these findings, although negative, point to a number of theoretical possibilities, suggesting a revision of the theoretical validity of such relation classifications and also a re-examination of the accuracy in assigning individual relations to a particular relation type.

The annotation described in this paper is, however, a preliminary pilot study, comprising only 10% of the total corpus. In future work, we will expand to cover the entire corpus, and examine the difference between the signaling of subject matter and presentational relations more extensively. Parallel to this work, we would also like to examine the signaling of different relation types using other relation classifications, such as the three-way distinction between semantic, pragmatic and expansion relations as proposed by Redeker et al. (2012), and to compare them with the existing classification in RST.

REFERENCES

- BATEMAN, JOHN, THOMAS KAMPS, JÖRG KLEINZ, AND KLAUS REICHENBERGER. 2001. "Towards constructive text, diagram, and layout generation for information presentation." *Computational Linguistics* no. 27 (3):409-449.
- BENWELL, BETHAN. 1999. "THE ORGANISATION OF KNOWLEDGE IN BRITISH UNIVERSITY TUTORIAL DISCOURSE: ISSUES, pedagogic discourse strategies and disciplinary identity." *Pragmatics* no. 9 (4):535-565.
- BLAKEMORE, DIANE. 1987. *Semantic Constraints on Relevance*. Oxford: Blackwell.
- BLAKEMORE, DIANE. 1992. *Understanding Utterances: An Introduction to Pragmatics*. Oxford: Blackwell.
- BLAKEMORE, DIANE. 2002. *Relevance and Linguistic Meaning : The Semantics and Pragmatics of Discourse Markers*. Cambridge: Cambridge University Press.
- CARLSON, L., AND D. MARCU. 2001. *Discourse Tagging Manual*.

- CARLSON, LYNN, DANIEL MARCU, AND MARY ELLEN OKUROWSKI. 2002. RST Discourse Treebank, LDC2002T07 [Corpus]. Philadelphia, PA: Linguistic Data Consortium.
- CORSTON-OLIVER, SIMON. 1998. Beyond string matching and cue phrases: Improving efficiency and coverage in discourse analysis. Paper read at AAAI 1998 Spring Symposium Series, Intelligent Text Summarization, at Madison, Wisconsin.
- DALE, ROBERT. 1991a. Exploring the Role of Punctuation in the Signaling of Discourse Structure. Paper read at Workshop on Text Representation and Domain Modelling: Ideas from Linguistics and AI, at Technical University of Berlin.
- DALE, ROBERT. 1991b. The role of punctuation in discourse structure. Paper read at AAAI Fall Symposium on Discourse Structure in Natural Language Understanding and Generation, at Asilomar, CA.
- DAS, DEBOPAM, AND MAITE TABOADA. 2013. Explicit and Implicit Coherence Relations: A Corpus Study. Paper read at Canadian Linguistic Association (CLA) Conference, at University of Victoria, Canada.
- FRASER, BRUCE. 1990. "An approach to discourse markers." *Journal of Pragmatics* no. 14:383-395.
- FRASER, BRUCE. 1999. "What are discourse markers?" *Journal of Pragmatics* no. 31:931 - 953.
- FRASER, BRUCE. 2006. "Towards a theory of discourse markers." In *Approaches to Discourse Particles*, edited by K. Fischer, 189 - 204. Elsevier Press.
- FRASER, BRUCE. 2009. "An Account of Discourse Markers." *International Review of Pragmatics* no. 1:293-320.
- HALLIDAY, MICHAEL A. K. 1985. *An Introduction to Functional Grammar*. London: Arnold.
- HALLIDAY, MICHAEL A. K., AND RUQAIYA HASAN. 1976a. *Cohesion in English*. London: Longman.
- HALLIDAY, MICHAEL, AND RUQAIYA HASAN. 1976b. *Cohesion in English*. London: Longman.
- KNOTT, ALISTAIR. 1996. *A data-driven methodology for motivating a set of coherence relations*. Ph.D. dissertation, University of Edinburgh, Edinburgh, UK.
- Lapata, Mirella, and Alex Lascarides. 2004. Inferring sentence-internal temporal relations. Paper read at NAACL-04.
- LE THANH, HUONG. 2007. "An approach in automatically generating discourse structure of text." *Journal of Computer Science and Cybernetics* no. 23 (3):212-230.
- LIN, ZIHENG, MIN-YEN KAN, AND HWEE TOU NG. 2009. Recognizing implicit discourse relations in the Penn Discourse Treebank. Paper read at 2009 Conference on Empirical Methods in Natural Language Processing, at Singapore.
- LOUIS, ANNIE, ARAVIND JOSHI, RASHMI PRASAD, AND ANI NENKOVA. 2010. Using Entity Features to Classify Implicit Discourse Relations. Paper read at SIGDIAL 2010.
- MAIER, ELISABETH, AND EDUARD HOVY. 1993. "Organising discourse structure relations using metafunctions." In *New Concepts in Natural Language Generation*, edited by H. Horacek and M. Zock, 69-86. London: Pinter.
- MANN, WILLIAM C., AND SANDRA A. THOMPSON. 1988. "Rhetorical Structure Theory: Toward a functional theory of text organization." *Text* no. 8 (3):243-281.
- MARCU, DANIEL. 1999. A decision-based approach to rhetorical parsing. Paper read at 37th annual meeting of the Association for Computational Linguistics on Computational Linguistics, at College Park, Maryland.
- MARCU, DANIEL. 2000. "The rhetorical parsing of unrestricted texts: A surface based approach." *Computational Linguistics* no. 26 (3):395-448.

- MARTIN, JAMES R. 1992. *English Text: System and Structure*. Amsterdam and Philadelphia: John Benjamins.
- MAZIERO, ERICK GALANI, THIAGO ALEXANDRE SALGUEIRO PARDO, IRIA DA CUNHA, JUAN-MANUEL TORRES-MORENO, AND ERIC SANJUAN. 2011. DiZer 2.0 – An Adaptable On-line Discourse Parser. Paper read at Anais do III Workshop “A RST e os Estudos do Texto”, at Cuiaba, MT, Brasil.
- O'DONNELL, MICHAEL. *RSTTool* 1997. Available from <http://www.wagsoft.com/RSTTool/>.
- PITLER, EMILY, ANNIE LOUIS, AND ANI NENKOVA. 2009. Automatic sense prediction for implicit discourse relations in text. Paper read at Joint Conference of the 47th Annual Meeting of the ACL and the 4th International Joint Conference on Natural Language Processing of the AFNLP, at Singapore.
- POLANYI, LIVIA, CHRIS CULY, MARTIN VAN DEN BERG, GIAN LORENZO THIONE, AND DAVID AHN. 2004. A rule based approach to discourse parsing. Paper read at SigDIAL 2004, at Cambridge, MA.
- PRASAD, RASHMI, ARAVIND JOSHI, AND BONNIE WEBBER. 2010. Realization of Discourse Relations by Other Means: Alternative Lexicalizations. Paper read at COLING 2010, at Beijing.
- REDEKER, G., I. BERZLÁNOVICH, N. VAN DER VLIET, G. BOUMA, AND M. EGG. 2012. Multi-Layer Discourse Annotation of a Dutch Text Corpus. Paper read at Conference on Language Resources and Annotation (LREC), at Istanbul, Turkey.
- REDEKER, GISELA. 2000. "Coherence and Structure in Text and Discourse." In *Abduction, Belief, and Context in Dialogue. Studies in Computational Pragmatics*, edited by W. Black and H. Bunt, 233–63. Amsterdam and Philadelphia: John Benjamins.
- SANDERS, TED, WILBERT SPOOREN, AND LEO NOORDMAN. 1992a. "Toward a taxonomy of coherence relations." *Discourse Processes* no. 15 (1):1-35.
- SANDERS, TED, WILBERT SPOOREN, AND LEO NOORDMAN. 1992b. "Toward a taxonomy of coherence relations." *Discourse Processes* no. 15:1–35.
- SANDERS, TED, WILBERT SPOOREN, AND LEO NOORDMAN. 1993. "Coherence relations in a cognitive theory of discourse representation." *Cognitive Linguistics* no. 4 (2):93–133.
- SCHIFFRIN, DEBORAH. 1987. *Discourse Markers*. Cambridge: Cambridge University Press.
- SCHIFFRIN, DEBORAH. 2001. "Discourse markers: language, meaning and context." In *The Handbook of Discourse Analysis*, edited by D. Schiffrin, D. Tannen and H.E. Hamilton, 54–75. Malden, MA: Blackwell.
- SCOTT, DONIA, AND CLARISSE SIECKENIUS DE SOUZA. 1990. "Getting the message across in RST-based text generation." In *Current Research in Natural Language Generation*, edited by R. Dale, C. Mellish and M. Zock, 47-73. London: Academic Press.
- SPORLEDER, CAROLINE, AND ALEX LASCARIDES. 2005. Exploiting linguistic cues to classify rhetorical relations. Paper read at Recent Advances in Natural Language Processing (RANLP-05).
- TABOADA, MAITE. 2009. "Implicit and explicit coherence relations." In *Discourse, of Course*, edited by J. Renkema. Amsterdam: John Benjamins.
- TABOADA, MAITE, AND DEBOPAM DAS. 2013. "Annotation upon annotation: Adding signaling information to a corpus of discourse relations." *Dialogue and Discourse* no. 4 (2):249-281.
- TABOADA, MAITE, AND WILLIAM C. MANN. 2006. "Rhetorical Structure Theory: Looking Back and Moving Ahead." *Discourse Studies* no. 8 (3):423-459.

- THEIJSEN, DAPHNE. 2007. *Features for automatic discourse analysis of paragraphs*. MA, Radboud University Nijmegen, The Netherlands.
- TRAXLER, MATTHEW J., ANTHONY J. SANFORD, JOY P. AKED, AND LINDA M. MOXEY. 1997. "Processing causal and diagnostic statements in discourse." *Journal of Experimental Psychology: Learning, Memory and Cognition* no. 23 (1):88-101.
- VAN DIJK, TEUN. 1977. *Text and Context: Explorations in the Semantics and Pragmatics of Discourse*. London: Longman.
- VAN DIJK, TEUN. 1979. "Pragmatic connectives." *Journal of Pragmatics* no. 3:447 - 456.

This article was first published at lacus.weebly.com





THE METAPHORS OF “FACE” AND “VOICE” IN THE CANADIAN DEBATE ON INTERNET PRIVACY

IRENA RADIŠEVIĆ AND MAGDA STROIŃSKA
McMaster University, Hamilton ON

Abstract: This paper looks at the use of metaphoric expressions in general and metonymy in particular in the public debate about the online privacy limitations planned by the Canadian government (Bill C-30). We focus on the metonymic way of using proper names, as well as real and invented faces in Canadian media discourse. We try to establish what these names literally *stand for*: the individuals, Canadian government, specific ministries, individual policies or certain values. We also analyse how their personal image, i.e. their “face” (as defined by Goffman 1955 and further developed by Brown & Levinson 1987) and “voice” are metonymous with what they are used to represent (see Lakoff & Johnson 1980: 37), thus illustrating the approach that uses “the face for the person” metonymy. We then look at Anonymous, the anti-government/anti-big corporation hacktivist movement, to examine the need to identify a cause with a metaphorical “face” and the linguistic mechanisms used to construct it.

Keywords: Metaphor, metonymy, face, voice, Internet privacy debate, Anonymous

Languages: English

IN FEBRUARY 2012, the Canadian government introduced Bill C-30, the Investigating and Preventing Criminal Electronic Communications Act (Bill C-30). The public debate about the act and the privacy limitations it proposed offer some interesting opportunities for analyzing the use of metaphoric expressions in general and metonymy in particular. In this paper, we focus on the metonymic use of proper names, as well as real and invented faces in Canadian media discourse.

We analyze how the names of two Canadian politicians, Prime Minister Stephen Harper and Minister of Public Safety Vic Toews, were used by the Canadian media and try to establish what these names literally *stood for*: the individuals, the government, specific ministries, individual

policies or certain values. We also analyze how their personal image, especially their “face” (Goffman 1955; Brown & Levinson 1987) and “voice” are metonymous with what they are used to represent (see Lakoff & Johnson 1980:37), thus illustrating the approach that uses “the face for the person” metonymy. We then look at Anonymous, the anti-government/anti-big corporation hacktivist movement, to see how it fits into this framework of public political debate.

Basing our analysis on a corpus study of Canadian media discourse, we examine the need to identify a cause with a metaphorical “face” and the linguistic mechanisms used to construct it.

1. PRIVACY AND THE INTERNET. The concept of privacy is intricately intertwined with a number of cultural, social, political, and moral values and may differ considerably between cultures and even within one culture over time. The understanding of what is considered private may involve concepts of modesty, as well as the extent to which others may have access to one’s physical or intellectual property or space. For example, the 2013 debate about the US invigilation of what was considered private correspondence and communication in the European Union gives an excellent opportunity to observe different attitudes to the concept of privacy. The interference of the state into private lives and activities of ordinary citizens in the United States and in Europe was viewed very differently in different places. While in America many people accept that such limitations of personal freedom might be justified by the common need to protect national security against terrorist attacks, in Europe such interference is harder to sell. In particular, those countries that have experienced - and overcome - authoritarian forms of government, most notably Germany, consider privacy as an essential human right that is not to be violated unless in extreme emergency (see Bielecki 2013). On the other hand, countries where citizens feel that they have very little physical and metaphorical space of their own – for example, Russia – may find it easier to accept yet another infringement on what others would consider their “right to privacy.”

This paper analyses the media debate that took place over the course of 12 months about the Internet/online privacy regulations that had been proposed by the Canadian government in 2012. Not only did we find various standard examples of metonymy (*Ottawa* for the Canadian federal government and *Silicon Valley* for the computer industry) but also interesting ways of using proper nouns as “brand names,” as well as real and invented faces used in a metonymic way.

The two Canadian politicians most visibly involved with Bill C-30 were Prime Minister Stephen Harper and Minister of Public Safety Vic Toews. We looked at the ways in which their names were used in two newspapers in order to establish what they literally *stand for* in media discourse. In a multimodal debate, the images of politicians’ faces are used in the same way that their names are used in print media. Using Lakoff & Johnson’s (1980:37) approach that introduces “the face for the person” metonymy, we analyze how a politician’s personal image, especially their “face” (Goffman 1955; Brown & Levinson 1987) and *voice* are metonymic with what they are used to represent.

Finally, we discuss the anti-government hacktivist movement Anonymous in order to see how it breaks the metonymic framework of the public political debate: the group took as its name a negation or absence of a name (Anonymous) and chose a *face mask* of Guy Fawkes to hide the identity of its members. Thus there is a multitude of different faces behind a single face mask that appears multiple times in pictures from demonstrations giving the movement a *face* that is not a real face (in order to avoid confusion, from here on a physical face will be referred to as a face and the conceptual face as a “face”).

We use methods from corpus linguistics to conduct an analysis of the media discourse

surrounding the privacy debate and the controversy about Vic Toews’ policy and persona. We analyse articles gathered from two Canadian English language newspapers – *The Globe and Mail* and the *Toronto Star* – to identify linguistic mechanisms used to construct the “face” of the two politicians in question and discuss their emotional impact on their audiences.

2. METONYMY. The term metonymy derives from the Greek *metōnymia* ‘change of name, misnomer’. As such, it is a type of metaphor, limited to labeling people, places, or abstract concepts with names that literally belong to another referent. In the context analyzed here, the names of the individual politicians were used to stand for groups of people and for institutions, rather than for the individual referents and private persons. This is a widespread linguistic strategy which we can observe in, for example, the surname-based terms coined for political doctrines, such as Marxism, Stalinism, and Maoism. In these cases, however, the individual is seen as the founder of a political doctrine; by way of contrast, the names of current politicians often stand for policies to which they just give their “face” but which may have been created by other individuals or factions within a government or party. If this is the case, the use of the proper noun or the individual’s physical face could be considered metonymy. Politicians strive to be identified with popular movements, and they want their names to be synonymous with popular policies. Thus the notion of *image* becomes a frequently used concept and object of indefatigable effort on the part of public relations (PR) people. The face is no longer just the physiognomy but a construct that is supposed to trigger all of the necessary – and positive – associations in the case of someone/something that is being supported or all of the negative associations in the case of someone/something that is being defamed, e.g., in so-called negative ads. Therefore a leader’s face and name are presented as being synonymous with the party and its policies.

3. FACE AND VOICE. Politicians are often presented by the media as talking heads, images on the screen, usually with only the head and upper torso visible, talking at length, and directly to the camera. The term was originally used to refer, often condescendingly, to newscasters and commentators, but modern use has extended its meaning to politicians being framed as talking heads by the media. What they say in real life is often less important than what the media allow them to be seen to say or what they report about them. Statements attributed to politicians can be seen as constituting their metaphorical “voice.” Mitra & Watts (2002:481) provide two definitions of voice. One focuses on the body’s physiological capacity to produce sounds, and the other highlights the linguistic function of voice and its ability to separate the mind from the body as the subject “I”. In public discourse, it is the media that gives voice to political figures, as it is the media that decides which of their messages are reported and how they are framed or presented. This mediated voice could then be seen as yet another type of voice in the sphere of media discourse.

Goffman (1955:222) defines “face” as a “positive social value a person claims for himself”. “Face” therefore stands for a conceptual image that a person tries to project and hopes that others will associate with him or her and also, by extension, with what the particular person represents. Lakoff & Johnson (1980) claim that in our Western culture we look at a person’s face to form an impression of who that person is. Hence, the “face” stands for not only the person but also, with a politician, for the morals and values of that individual. The metonymical face may be what people associate an event or a statement with. Lakoff & Johnson explain this as a metonymic relationship that says “the face for the person.” We can perceive the physical face and voice of a person and recognize them by those attributes. However, the tone and emphasis in a person’s comments and

their facial expression also form part of the meaning of their message (e.g., a smile indicating they are saying or doing something pleasant).

In a political setting, just as in most instances of communication, it is these elements (the physical and the metaphorical) that combine for a positive or negative response from the audience. Human faces and voices can be associated with causes that are ethical or unethical, moral or immoral. In such a strongly mediated age, the reported voice and face have become key factors if a cause is to have success. The voice of a political persona in print is represented by the messages that are attributed to him or her. In this paper, we focus on the metonymic use of “face” and some aspects of “voice”.

4. METHODOLOGY. In our analysis of the discourse about Internet privacy, we adopted a corpus linguistics approach. The corpus consisted of articles from two English language Canadian daily newspapers, both published in Toronto, Ontario: *The Globe and Mail* and the *Toronto Star*. These two newspapers were chosen as they not only have the highest circulation, but also exhibit different journalistic styles. *The Globe and Mail* is considered the Canadian ‘newspaper of record’, with very professional editorial policies and little use of sensationalism. The *Toronto Star*, on the other hand, leans more towards a popular (though not tabloid) format.. This paper analyzes the coverage from 1 August 2011 to 1 August 2012. The corpus from *The Globe and Mail* consists of 32 articles (19,485 words), and the corpus from the *Toronto Star* consists of 37 articles (18,364 words).

The ideological differences between the two newspapers in terms of their approach to journalism were not the focus of our attention; rather we calculated they would rule out the inherent bias of using a single source.

The political discussion about regulation and Internet privacy started in mid-2011. Our analysis, however, was triggered by an event that took place on 14 February 2012 in the Canadian House of Commons. The then Public Safety Minister Vic Toews championed the proposed bill with words that would define his entire approach to the issue: “... you either stand with us or with the child pornographers.” Toews’ statement was perceived by many as both highly offensive and manipulative. The bill was often referred to by its short title, *Protecting Children from Internet Predators Act*, yet the bill itself (full title: *Investigating and Preventing Criminal Electronic Communications Act*) made hardly any mention of children (Bill C-30).

The selected corpora relating to Bill C-30 were examined for the names of the two key politicians involved (the minister and the prime minister), as well as the names of places that represent the government as an institution. These keywords included terms such as “Ottawa,” “Stephen Harper,” “Harper,” etc., and “Vic Toews,” “Mr. Toews,” “Public Safety Minister Vic Toews,” as well as the hacktivist group “Anonymous.” The names were chosen on the basis of their metonymic role as the public face of the government policy’s campaign. With the use of TAPOR (an online data visualization tool), we extracted instances that show the keywords in context. The collocation for all terms extended to 10 words to either side of the keyword.

5. THE SEARCH RESULTS. The corpus from *The Globe and Mail* shows 28 instances of the word “Harper,” no instances of “Stephen Harper,” 14 instances of “the Harper government” 10 instances of “Mr. Harper,” and one instance of “Stephen Harper’s government.” For the keyword “Vic Toews,” we saw 20 instances of “Public Safety Minister Vic Toews,” 17 instances of “Mr. Toews,” and 19 instances of “Vic Toews.” There were only four instances of metonymic “Ottawa.” Finally, there were 43 instances of “Anonymous.”

In the corpus from the *Toronto Star*, we saw 26 instances of “Harper,” five instances of “Prime

Minister Stephen Harper,” two instances of “Stephen Harper’s government,” six instances of “the Harper government,” and nine instances of “Harper.” The term “Vic Toews” appeared 39 times, and the term “Public Safety Minister Vic Toews” 15 times. There was only one instance of metonymic “Ottawa.” The term “Anonymous” was found 17 times in the corpus.

A policy issue cannot be discussed in the media without including references to government representatives. We hypothesized that names of public figures are used in order to relate government actions to specific individuals and to give abstract concepts such as policies, ideologies, and government strategies a human face and voice. We can best identify “voice” by looking at the verbs associated with an individual. “Face”, on the other hand, is established by looking at the associated metaphors. In short, we noted the lexical items before and after a keyword, looking to extract the verbs and any metaphorical terms.

5.1. *OTTAWA*. We started with *Ottawa* because of its clear metonymic function. Ottawa is the seat of the Canadian federal government and so the name of the city is naturally used to represent government institutions in political contexts. Surprisingly, it was used metonymically only once in the *Toronto Star*:

- (1) They are, however, guilty of sleaze. If *the sandbox in Ottawa* is now open to anyone with a Twitter account ...

Two sample collocations from *The Globe and Mail* are:

- (2) ... one government official. People familiar with the government’s plans say *Ottawa* is still determined to move forward with C-30 but does ...
- (3) ... with warrants, to track the activities of users more easily. *Ottawa* has estimated this would cost as much as \$80-million over ...

In *The Globe and Mail*, the verbs that we found in the vicinity of the term *Ottawa* were *justified*, *framed*, *use*, *is determined*, and *has estimated*. The metaphors that we found describing Ottawa were *privacy watchdog*, *warrantless*, and *move forward with*.

The metonymic representation in the *Toronto Star* relates Ottawa to a children’s playground (a *sandbox* or “container that is filled with sand for children to play in,” Macmillan Dictionary). On the other hand, *The Globe and Mail* employs the metaphor of a *watchdog* (“a dog used for guarding a house or piece of property,” Macmillan Dictionary). This is close to the definition of “a person or organization that works to stop people from doing illegal things in a particular area of business or society” (Macmillan Dictionary). One newspaper dismisses *Ottawa* as a place for children, the other metaphorically appreciates it as an animal that safeguards those in its care.

5.2. *STEPHEN HARPER*. Some sample collocations with the name of the prime minister in the *Toronto Star* are:

- (4) Prime Minister Stephen Harper *brushed off* all those questions on Monday...
- (5) ...very outspoken on the question of crime, Prime Minister Stephen Harper *seems far from eager to discuss* the online spying legislation...
- (6) ...Stephen Harper’s government, it *has some serious messaging issues*. On three

occasions...

- (7) Stephen Harper's government *is starting to show its age*.

In the *Toronto Star* we find the keyword collocated with verbs used in a negative metaphorical fashion such as *brushed off*, *seems far from eager*, *has [...] issues*, and *is starting to show its age*.

The *Toronto Star* employs the name of the prime minister mostly with the term *government*, and in that way is using the name and the metonymic face of Harper as the face of government. The metaphoric expression *show its age* and the descriptions of the way it communicates (i.e., *brushed off*, *some serious messaging issues*) suggest that the Harper government is becoming obsolete or arrogant.

Some sample collocations of the keyword *Stephen Harper* and its variations in *The Globe and Mail* are:

- (8) ...to come to grips with an ever-changing electronic world, the Harper government *wants to intrude even further* into our private lives...
- (9) Bill C-30; Harper government *has blinked in the face of a backlash* over...
- (10) The Harper government *has backed off on plans* to install listening devices
- (11) By all indications, the Harper government *is a lot more attuned* to the former than...
- (12) Perhaps Mr. Toews and Mr. Nicholson, as producers for the Harper agenda, can *call themselves "The Grimmer Twins"*.
- (13) ...adds up to six incompetent/ethically challenged/unreliable performers on *Harper's front bench*.

In *The Globe and Mail* we found *Stephen Harper* collocated with verbs used mostly in a metaphorically extended sense: *to intrude*, *has blinked*, *backed off*, and *is attuned*. Further metaphors found near the keyword are *to come to grips*, *in the face of backlash*, *on Harper's front bench*, and the reference to *The Grimmer Twins*. Through its choice of verbs, *The Globe and Mail* portrays the voice of Harper and his government as more reserved, somewhat stunned by the developments, and acting in a surprised manner.

The metaphors in the newspapers frame the reaction of the government to the public's negative response to Bill C-30. The conflict is reflected by expressions such as *come to grips*, *in the face of backlash*, and the depiction of those who proposed the bill as the *Grimmer Twins*, a play on words with multiple cultural references. The verbs found in both newspapers give the reader an opportunity to see Harper as someone who *brushes off* the concerns of others (i.e., refuses to listen or to accept that something might be true or important from another perspective), *backs off* (i.e., moves backwards in order to get further away from something; this expression also has a metaphorical meaning – to stop criticizing someone or telling them what to do) and *is attuned to* a specific point of view (i.e., familiar with something and able to deal with it in a sensitive way).

5.3. *VIC TOEWS*. The sample collocations around *Vic Toews* in the *Toronto Star* are:

- (14) Two ministers are liabilities for non ethical reasons. Public Safety Minister Vic Toews *doesn't recognize the line* between defending law and order ...
- (15) Public Safety Minister Vic Toews *denied the reports*, maintaining that Bill C-30 will still ...
- (16) The decision by Public Safety Minister Vic Toews on Tuesday *to halt the practice of eavesdropping*...

- (17) Vic Toews’ *tweeting heart* [headline]
- (18) outpouring of concern about potential privacy issues for Internet users. Vic *wants to know about you*. Let’s get to know Vic
- (19) The man who launched a Twitter war with Vic Toews, publicizing details of the public safety minister’s divorce, says
- (20) ...wonder how people sail through the day in their company. Toews *should not have poked his finger into the online life*
- (21) “the comment is over the top, I accept their judgment,” Toews *told* Solomon. Of the Twitter flak, Toews *was upbeat*.

In the *Toronto Star* we found *Vic Toews* collocated with verbs such as *doesn’t recognize*, *maintaining*, *denied*, *to halt*, *wants to know*, *should not have poked*, *told*, and *was upbeat*. There are several metaphors in the vicinity of the keyword, for example, *tweeting heart*, *outpouring of concern*, *launched a twitter war*, *poked his finger into*, and *Twitter flak*.

The sample collocations in *The Globe and Mail* are:

- (22) ...Toews, Canada’s Public Safety Minister, *has drawn the battle lines* in the debate over the...
- (23) ...Toews *rebutted* that “there is nothing in the bill that would allow police to snoop
- (24) ...Toews *beat back criticism* of the legislation by declaring that critics either stood with ... the government or with child pornographers
- (25) ...Toews *have been badly beaten up* over federal fumbles on jet-fighter procurement
- (26) ...personal details of Public Safety Minister Vic Toews’s divorce on Twitter
- (27) Rattled by a public backlash over Bill C-30, Public Safety Minister Vic Toews announced in mid-February the Conservatives would take the unusual step
- (28) A way we owe a debt of gratitude to Vic Toews, *the hapless* Canadian minister of public safety, who informed Canadians

In *The Globe and Mail* we find the keyword with verbs such as *has drawn the battle lines*, *rebutted*, *beat back*, and *have been beaten up*. The metaphors that are found in the vicinity of the terms are *rattled* (verb), *the hapless Canadian minister*, *the battle lines in the debate*, *to snoop*, *stood with us/with child pornographers*, and *federal fumbles on jet-fighter procurement*.

Both newspapers use verbs and metaphors with meanings related to battle, thus giving Toews an aggressive air. It is not a real battle but a virtual battle of words.

It should be mentioned that while Harper’s name is used almost exclusively in a metonymic way (to represent the government), Toews’ name is also used in a directly referential fashion. This is because Toews was attacked not only as the minister for public safety but also as a person for his proposal to limit the online privacy of Canadians. In an affair nicknamed Vikileaks, the details of Toews’ divorce were “splashed across Twitter” (“Vic Toews...” 2012) to demonstrate that there are aspects of personal life that should remain private and confidential.

5.4. *ANONYMOUS*. Finally, we looked at the keyword “Anonymous” because of the important role this movement has played in the global debate about online privacy. In the *Toronto Star*, we found the following sample collocations:

- (29) ...posted on YouTube, were *allegedly* created by the hacktivist group Anonymous. In

ominous melodramatic tones, the videos warned Toews ...

- (30) Online video *threats* came from the *shadowy* Anonymous group and a Twitter account called Wikileaks ...

Collocations for *The Globe and Mail* include:

- (31) ... of hacking *super-gods living in the basement of Mount Olympus*. Anonymous *is so nebulous* that for the federal government to call ...
- (32) ... Anonymous mocked Vic Toews, the hapless Canadian minister wanted Parliament to ...
- (33) ... *The pranksters had found a political voice*. Since then, Anonymous *has become the poster child* for “hacktivism” - cybercrime that’s committed ...

We did not find many verbs that collocate with *Anonymous* in either newspaper. However, there are many figurative expressions in the vicinity of the keyword or as direct attributes of the noun: *ominous, nebulous, shadowy, sleazy, has become the poster child, super-gods living in the basement of Mount Olympus, and the pranksters had found a political voice*. Together, the metaphors portray the movement as mysterious, mischievous, threatening, and difficult to describe or comprehend.

Both newspapers connect Anonymous to Wikileaks, an organization that leaks confidential government documents, and to Twitter, a social platform on the Internet. It is interesting that there were no verbs found in *The Globe and Mail* in direct connection to Anonymous (except for the striking *mocked* in example (32)), while in the *Toronto Star*, the few verbs indicated merely a state of being. It is as if Anonymous still had no *voice* and was important mostly through its ominous presence. The group’s face is invisible (covered by a mask) and it stays unrecognizable through the choice of metaphors found in both newspapers.

6. *ANONYMOUS* – THE BACKGROUND. The tag *Anonymous* appeared around 2003-2004 in reference to a loosely organized association of Internet users. It is believed to have originated on the image board 4chan website (www.4chan.org). The tag, abbreviated as *Anon*, ensures anonymity for those posting comments. As the tag began to appear everywhere, it produced the impression that Anonymous was either one single, omnipresent individual or that it was a group of Internet anarchists gathered together under a name that was the negation of a name – Anonymous.

Anonymous engages in a variety of political pranks and actions online, and individual participants refer to themselves as *Anons*. When Anons engage in political protests offline, the members wear the Guy Fawkes face mask inspired by the 2005 movie *V for Vendetta* (directed by James McTeigue).

From the very beginning, Anonymous violated the usual referential practices in media discourse. On the one hand, the group rejected a name label by calling itself *Anonymous* – a name that means *no name*. Yet the tag suggests that even an anti-establishment, anarchist entity in public discourse requires a name, “a handle” that can be used for referential and self-identification purposes. Without a name, or logo, it could not claim any form of presence in public discourse.

However, an entity in the media needs a face that it can be identified with. In the case of Anonymous, that “face” can be replicated and worn by many to create a uniform crowd. The choice of the stylized Guy Fawkes mask is consciously motivated and not a random decision; it signals that Anonymous stands for individualism, because the movie “V for Vendetta” told the story of an

individual’s fight against an oppressive system (cf. Waites 2011).

7. FACES OR MOUTHPIECES. Due to strong opposition from the Canadian public, the government announced in February 2013 that it would not go ahead with the controversial Bill (Payton 2013). On 8 July 2013, Toews, the government’s face in the debate, announced his resignation as minister for public safety. This move was described as “clearing the way for Harper to add new faces to his next cabinet in a widely expected shuffle” (Mas 2013). On 15 July 2013, the *Toronto Sun* ran the headline “Some old hands and fresh faces.” This metaphorical use of *face* was strengthened in the article with a quote from opposition leader Justin Trudeau, who dismissed “the new crew as nothing more than ‘mouthpieces.’”

The use of the word “face” in the context of the cabinet reshuffle points to the fact that the distinction between the metaphorical or metonymic “face” and the physical – literal – face of a cabinet minister is becoming blurred. Thus, Public Safety Minister Vic Toews, the face of Bill C-30, had to make way for a new face that would not be tainted by association with Big Brother-like surveillance of private citizens.

8. CONCLUSION. In this paper, we focused on print media, namely two Toronto newspapers, over the course of 12 months. We looked at how these media presented the face and voice of three key players involved in the Canadian debate on Internet privacy.

In political discourse, players are identified by name and image: together they create the “face.” Lack of a face or the use of a mask instead of a real face breaks the established system of metonymy on the one hand, but reinforces it at the same time. One simply cannot exist in political discourse without a name and, in multimodal communication, without an image, that is, a face. Anonymous attempted to overcome this stereotype by presenting itself as a “headless” movement without a leader and without a name. But the face mask of Guy Fawkes is now the face of Anonymous and the name meaning “no name” has become its “brand.”

Faces of popular politicians are used as metonymies for political issues. The danger is that unpopular political stances reflect badly on the politicians who lend their actual faces as the metaphorical “face” of the institutions they represent. If this is indeed the case, then new faces are constantly needed to extend the institution’s credibility. This shows the blurring of the distinction between the metaphorical and literal use of the concept of face.

REFERENCES

- BIELECKI, T. 2013. Europa wściekła na USA za inwigilację unijnych urzędników i polityków. *Gazeta Wyborcza*.pl. Published 30 June 2013. Available at:
 <http://wyborcza.pl/1,75477,14197619,Europa_wsciekla_na_USA_zainwigilacje_unijnych_urzednikow.html#ixzz2XjcjvOcIhttp://wyborcza.pl/1,75477,14197619,Europa_wsciekla_na_USA_zainwigilacje_unijnych_urzednikow.html#ixzz2XjcS4RZS>. Accessed 30 June 2013.
- BILL C-30, *An Act to enact the Investigating and Preventing Criminal Electronic Communications Act and to amend the Criminal Code and other Acts*. 1st sess., 41st parliament. House of Commons. Canada. First Reading 14 February 2012. Available at:

- <<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=5380965>>. Accessed 6 August 2013.
- BROWN, P., & S. C. LEVINSON. 1987. *Politeness: Some universals in language usage*. Cambridge: Cambridge University Press.
- GOFFMAN, E. 1955. On face-work: An analysis of ritual elements of social interaction. *Psychiatry: Journal for the Study of Interpersonal Processes* 18(3): 213-231.
- LAKOFF, G., & M. JOHNSON. 1980. *Metaphors We Live By*. Chicago: University of Chicago PRESS.
- MAS, S. 2013. Vic Toews resigns ahead of cabinet shuffle. CBC News online. Posted 8 July 2013. Available at: <<http://www.cbc.ca/news/politics/story/2013/07/08/pol-public-safety-minister-vic-toews-cabinet.html>>. Accessed 19 July 2013.
- MCMILLAN DICTIONARY. Available at: <http://www.mcmillandictionary.com>>. Accessed on January 23, 2014.
- PAYTON, L. 2013. Government killing online surveillance bill. CBC News online. Posted 11 February 2013. Available at: <<http://www.cbc.ca/news/politics/story/2013/02/11/pol-rob-nicholson-criminal-code-changes.html>>. Accessed 19 July 2013.
- Some old hands and fresh faces. Editorial. *Toronto Sun* online. Posted 15 July 2013. Available at: <<http://www.torontosun.com/2013/07/15/some-old-hands-and-fresh-faces>>. Accessed 20 July 2013.
- VIC TOEWS: Divorce information laws under debate after minister's split splashed across Twitter. 2012. *The Huffington Post*. Posted 03 November 2012. Available at: <http://www.huffingtonpost.ca/2012/03/11/vic-toews-divorce_n_1337535.html>. Accessed 3 August 2013.
- WAITES, R. 2011. "V for Vendetta masks: Who's behind them?" BBC News Magazine. Published 20 October 2011. Available at: <<http://www.bbc.co.uk/news/magazine-15359735>>. Accessed 4 July 2013.

This article was first published at lacus.weebly.com.





PROPOSITIONAL TRUTH, DECEPTION, AND CONSEQUENTIALISM IN THE LABELING OF LIES

EMILY WARNOTT & DOUGLAS W. COLEMAN
University of Toledo

Abstract: On the basis of an earlier study by Coleman, Warnott examined a possible relationship between different understandings of what constitutes a lie across US dialect-cultural regions and between Americans and international students. She found evidence that different dialect-cultural regions of the US may exhibit differences in what people view as lying vs. telling the truth. The current study re-examines Warnott's data to try to explain some of her results in terms of how people apply domain confusions to their understanding of what lying is.

Keywords: lies, lying, truth, hard-science linguistics, human linguistics, ethics, linguistic metatheory

Languages: English

A CARTOON FROM THE SUNDAY COMIC STRIP SERIES *FOR BETTER OR FOR WORSE* (Johnston 2013, February 17) opens with Lizzie, a young girl, alone at the dinner table and staring at her plate, thinking "Bleah." In panel 2, she is poking at the food on the plate with a finger as her mother urges her, "Come on Lizzie — before it's cold!" In panel 3, Lizzie is slumped with her chin on the edge of the table, her mother now is admonishing her with a raised finger, "Elizabeth — those vegetables are good for you! You're not getting down from the table until they're all GONE!!" By panels 4-6, the mother has moved out of view; Lizzie takes a handful of the vegetables (panel 4) and, looking furtively side-to-side (panels 5-6), stuffs the food into the pockets of her overalls. In panel 7, Lizzie turns around in her chair and announces loudly so her mother can hear, "Veg'tables all gone, Mom!" Panel 8 shifts to the bathroom, where we see Lizzie emptying her pockets into the toilet; her mother (apparently just out of view) shouts "ELIZABETH!!" In the last panel, Lizzie is face-to-face with her mother, explaining, "You never said I had to EAT dem!!" The expression on her mother's face shows obvious displeasure, but we can see that she is not going to argue the point. Lizzie has come out on top in the exchange. The exchange depicted in this cartoon vividly illustrates how we can learn to "lie by telling the truth" (Sypniewski & Coleman 2011:296-97).

1. DIFFERENT UNDERSTANDINGS OF LYING. As shown in Sypniewski & Coleman (2011:*passim*) and Coleman (In press: *passim*), there is more than one way to understand what constitutes a lie. Some understand a lie as speaking with the expectation of causing a hearer to have an understanding that conflicts with the understanding of the speaker. Here are four sets of conditions that might apply in a situation (1) – (4).

- (1) John's understanding is that the check **is not** in the mail.
John expects Mary to understand that the check **is** in the mail.
- (2) John's understanding is that the check is not in the mail.
John expects Mary to understand that the check is not in the mail.
- (3) John's understanding is that the check is in the mail.
John expects Mary to understand that the check is in the mail.
- (4) John's understanding is that the check **is** in the mail.
John expects Mary to understand that the check **is not** in the mail.

Suppose John says to Mary, "the check is in the mail." Under the conditions (1) and (4), with this approach to understanding the nature of a lie, John is lying. Suppose Mary asks him about the check, and he sarcastically replies, "Oh, you know me — the check isn't in the mail yet," trying to convince Mary she shouldn't have questioned his promptness, thus trying to cause her to believe the check **is** in the mail. With this understanding of what constitutes a lie, John is still lying. In both cases, John's understanding of the state of affairs in the real world conflicts with the understanding he expects to cause Mary to have.

A second common understanding of what constitutes a lie is not based on the expectation of speaking to cause false beliefs, but is based on the speaker's knowledge of the propositional truth of his utterance. With this understanding of what a lie is, John's sarcastic "Oh, you know me — the check isn't in the mail yet" is not a lie because he has uttered a propositionally true statement. Many people regard this as not a lie because they treat meaning as something inherent to the words and grammar of the proposition "The check isn't in the mail yet." Thus, John's expectation that *Mary will believe something false* does not matter in this case; only the purported propositional truth / falsehood of his utterance.

The difference between the two understandings of what constitutes a lie has ethical consequences, as pointed out by Coleman (In press). The first understanding — which focuses on people and their understandings — leads to seeing Lizzie's "Veg'tables all gone, Mom!" as a lie. The second understanding — which focuses on propositional truth — leads to seeing that Lizzie has spoken the truth to her mother. Only because she and her mother think of lying in terms of propositional truth, can Lizzie "lie by telling the truth."

2. CULTURAL DIFFERENCES IN UNDERSTANDING WHAT LYING IS. In a large-scale study, Bond & De Paulo (2006) have shown that different cultures have different views of what constitutes a lie (see also *Government Product News / GPN*, 2004). As sociolinguists have long been aware, the distinction between a language and a dialect lacks an objective basis; see for example, the long discussion in Hudson (1980:20-69) of language varieties. Thus in any large and diverse linguistic community, we would expect similar, even if less distinct, differences. Since historical settlement patterns have created cultural and linguistic variety across the United States, this led Warnott (2013) to ask in her MA thesis whether such differences in the understanding of a lie as are discussed above might correlate with region. This paper reports an expansion of her work.

3. **METHODOLOGY.** The current analysis is derived from the data set created for Warnott (2013), with additional original analysis of that data that attempts to explain some of her results. Warnott (2013) uses a survey with prompts similar to those of Coleman (In press). A typical scenario used to detect which understanding of lying a research participant has is shown in (5). Twelve separate prompts were presented, including three baseline items from Coleman's (In press) original study — for a mistake, teasing, and an approximation. New items were added to provide controls for the gender of a speaker (in a romantic relationship), the relative ages of speaker and hearer, the relative importance of the situation, and the relative level of authority of the speaker and hearer.¹

- (5) Five-year-old Eddie was running through the living room and bumped a table so that it rocked, knocking over a potted plant sitting on the table. The potted plant rolled off and hit the floor, breaking, sending dirt, broken pottery, and bits of the plant scattering. He turned and noticed the mess, but ran out of the room. Later, his mother Fran shows Eddie the mess and asks him, "Did you break the pot?" Eddie says, "I never touched that pot."

Eddie's response "I never touched that pot" is ...

Controls were established by creating paired scenarios. For example, the two following scenarios (6) and (7) were used to establish a control for the gender of a speaker (in a romantic relationship).

- (6) Carl and Diane went out on a first date. They just finished eating at an expensive sushi restaurant. Diane asks, "How did you like it?" To Carl, the food seemed unappetizing, but he doesn't want to disappoint Diane, who said she loves the restaurant. Carl smiles and says, "I kind of like it."

Carl's response of "I kind of like it" is ...

- (7) Bobby took Susie out on a date to watch a professional football game. They are just leaving the Cleveland Browns stadium when Bobby says, "Wasn't that awesome?" To Susie, football is extremely boring and she was cold the whole time, but she doesn't want to disappoint Bobby. Susie grins and says, "Yeah, that was fun!"

Susie's response of "Yeah, that was fun!" is ...

For Warnott (2013) and this study, the possible participant responses to the scenarios were altered from their earlier form in Coleman (In press); in the original study, participants were asked to decide whether the speech in each case fell into one of the following categories: lie, technical lie, white lie, deception without lying, mistake, or approximation. In Warnott (2013) and the current study, the responses categories offered after each scenario are shown in **Table 1**.

¹ The questions for the new version of the instrument, used in Warnott (2013) and the current study — based in part on those of Coleman (In press), were developed by Kamal Belmioub, Kevin Risner, Emily Warnott, and Ryan Wright, with the assistance of Douglas Coleman, as part of an assignment for a graduate course on research methods for applied linguistics at the University of Toledo.

CHOOSE ONE FROM EACH COLUMN.		
Choose one : <input type="checkbox"/> a lie. <input type="checkbox"/> a mistake. <input type="checkbox"/> neither a lie nor a mistake.	Choose one : <input type="checkbox"/> intended to deceive. <input type="checkbox"/> not intended to deceive.	Choose one : <input type="checkbox"/> probably harmful. <input type="checkbox"/> probably not harmful. <input type="checkbox"/> possibly harmful or harmless -- I can't tell.

Table 1. Response Panel that Appeared under each Scenario.

When the data was collected (in Phoenix, Arizona; Orlando, Florida; and Toledo, Ohio), participants were asked where they lived and for how long. This allowed Warnott (2013) to assign each participant to a particular region, defined along recognized dialect boundaries (Labov, Ash, & Boberg, 1997), as shown in **Figure 1**. She identified data area 1 as West, data area 2 as Midland, and data area 3 as South. Among the participants in Toledo there were both Americans and international students.



Figure 1. Linguistic Regional Boundaries (adapted from Labov et al., 1997:1).

Table 2 summarizes the elements of the design of Warnott (2013) and the current study. Data for three of the key variables were collected through item responses, the other (regional identity) face-to-face. Item features included several controls to prevent intervening variable effects. The baselines of Coleman (In press) were retained to establish that a given participant or group could distinguish lying from error, approximation, and teasing / sarcasm. The use of the baselines was thus critical for Warnott (2013), who had to establish that the non-native speakers could understand the scenarios well enough to differentiate the baselines (which native speakers almost never identify as lies) from the other cases (which many native speakers identify as lies). It also gave a hint as to what was to come in the case of one regional group.

Variables	In Item Response	Labeled as a lie (Lie / Mistake / Neither)
		Deceptive (Y / N)
		Likelihood of harm (Probably / Probably Not / Can't tell)
	Asked Separately	Linguistic-cultural identity of the participant (Midland, South, West, Non-US)
Item Features	Controls	Gender of speaker in a romantic relationship (M / F)
		Relative age of speaker to hearer (Adult / Child)
		Relative authority level of speaker to hearer (Citizen / Police officer)
	Baselines	Teasing
		Making a mistake
		Approximating

Table 2. *Summary of Key Elements of the Research Design.*

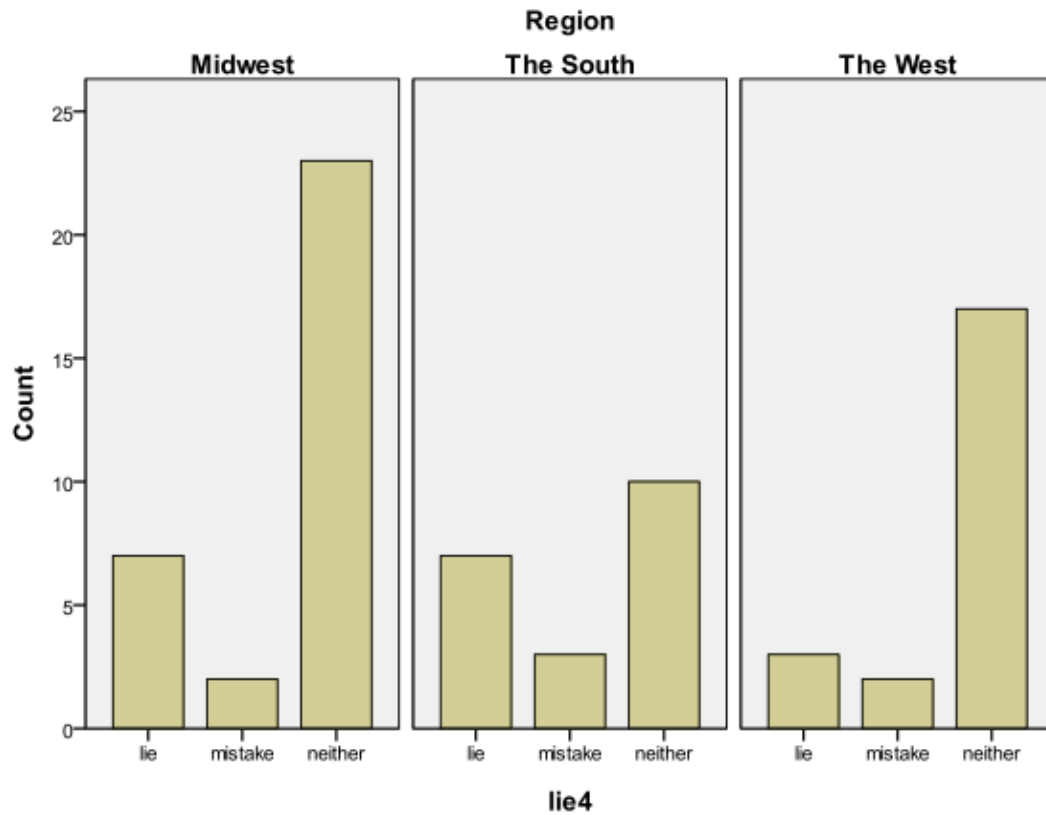


Figure 2. *Perceptions of Teasing as Lying by Regional Identity* (Warnott, 2013: 26).

4. RESULTS. The baseline items once again (as in Coleman, In press) showed a strong tendency for participants to indicate that a scenario in which someone made an error in reporting the time of an appointment was, in fact, a mistake and that a scenario in which someone was approximating the distance to the sun was neither lying nor making a mistake. However, the first hint of a difference to become clearer later appeared on the third baseline item, the one for teasing. While

participants from the Midland and West regions overwhelmingly identified teasing as neither a lie nor a mistake, the proportion of those from the South who identified teasing as a lie or as a mistake was surprisingly high, with almost as many identifying it as a lie as those saying it was neither. See **Figure 2**.

Warnott (2013) wanted to know if a person's regional identity affected the relative importance of speaker deception on the person's perception of whether something was a lie. For each participant in the study, she calculated the number of cases in which a given speaker both lied and deceived, which she labeled ConTotal (the **Total Connection** between lying and deception in that person's responses). She then compared the three regions for how often lying was tied to deception using a set of Mann-Whitney U tests (comparing the median rate of ConTotal by region). These are summarized in **Table 3**.

South vs. West	median _S = 5 median _W = 7	U = 135.5 p = 0.051
South vs. Midland	median _S = 5 median _M = 7	U = 221.0 p = 0.101
Midland vs. West	median _M = 7 median _W = 7	U = 334.5 p = 0.754

Table 3. *Comparison of the Degree of Connection between Lying and Deception by Region.*

Warnott (2013) noted that although participants from the Midland and West regions show absolutely no likelihood of a difference in how strongly they connect lying and deception, participants from the South are nearly at the criterion level of $p \leq 0.05$ when compared to the West; even the $p = .101$ level is strongly suggestive of a difference between South and Midland.

Warnott (2013) looked at three primary factors to try to interpret these outcomes: educational levels, levels of religiosity, and income levels. These factors were identified because they are known to vary state-by-state and region-by-region. Educational level (as measured in terms of high school graduation rates) showed no correlation with ConTotal. Regional variation by average income level does not line up at all with dialect boundaries, so it was excluded on the grounds that it is not likely to correlate with any US regional cultural subdivisions. Of the three factors considered, only religiosity lined up well with region and showed a possible correlation with ConTotal. Contrary to Warnott's expectations, however, the South (highest religiosity) apparently had the lowest connection between lying and deception, the Midland and West apparently higher.

In the current study, we have reanalyzed some of the data in an attempt to explain some of the earlier results with participants from native speakers of English in Midland, South, and West regions of the US. First, we compared all the cases in which they associated lying with deception (based on their answers) to those in which they associated lying with propositional falsehood (when they said there was no deception but when the scenario purportedly contained a propositionally false statement). The difference was highly significant, the association between lying and deception being greater overall (mean_{DECEP} = 5.684, mean_{FALSE} = 4.813, Wilcoxon $Z = -4.630$, $p < 0.01$). This showed an overall tendency — a strong one — among study participants to treat lying in terms of the effect of speech on a hearer rather than any purported truth / falsehood in words and grammar. See **Figure 3**.

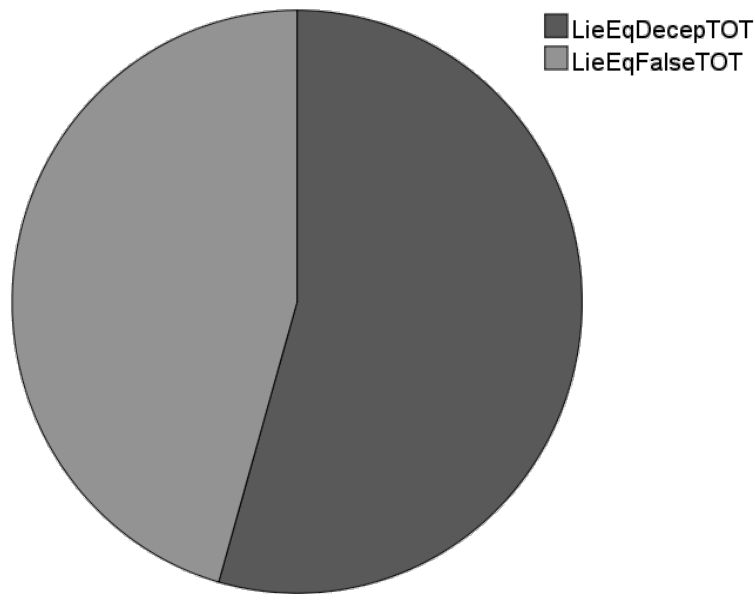


Figure 3. *Distribution of Lying Tied to Deception vs. Propositional Falsehood.*

We also reanalyzed the data of Warnott (2013) for the relative contribution of the factors of perceived deception, propositional falsehood, and perceived harm to a participant's judgment of whether or not something was a lie. A clear difference emerged here, too (mean rank_{DECEP} = 2.60, mean rank_{FALSE} = 2.05, mean rank_{HARM} = 1.35, $W = 0.434$, $df = 2$, $p < 0.01$). Apparently, the perceived harm is the least important factor among the kinds of everyday scenarios we have investigated, the perceived deception being the most important.

5. CONCLUDING REMARKS: DEONTIC VS. CONSEQUENTIALIST INTERPRETATIONS OF LYING. We began this re-examination of Warnott's data by trying to align the two views of lying that we were seeing with deontic and consequentialist views.

Deontists are responsible for investigation into modal logics of obligation; this would seem to mean that they would be concerned with one's ethical obligations regarding the effects of one's speech on a hearer. However, as logicians, they define lying in terms of propositional truth. This involves a domain confusion, since words are not physical entities and do not carry their meaning from speaker to hearer (Yngve 1996:1-4; Sypniewski 2007). Thus, in the deontic view, it is very possible to separate lying from deceiving. If a person's obligation is not to lie, but lying is defined in terms of propositional truth, then Lizzie ("Veg'tables all gone, Mom!") has fulfilled her obligation not to lie to her mother.

A consequentialist view looks at the effects of one's speech. Most often, consequentialists look at one's goals being achieved or not, but also at potential negative side-effects. So, if Eddie says, "I never touched that pot," his mother believes him and is happy with his behavior, Eddie never suffers any negative consequences for the act, his mother blames the cat and gives the cat to a more loving home, and in the end Eddie, his mother, and especially the cat live happily ever after, then a consequentialist would say Eddie's speech was ethically correct. Consequentialism thus focuses on aspects of behavior with which an ethical obligation can be associated, such as when one's speech causes harm to another. It does not concern itself with one of the key effects:

the change in state of the hearer with regard to the hearer's understanding of the state of affairs.

In HSL this change in the state of the hearer as a result of being on the receiving end of a communicative act is how we define the hearer's understanding; we model that understanding in terms of orthoconcepts (Yngve 2006; Coleman & Sypniewski In press). As demonstrated in earlier papers (Sypniewski & Coleman 2011; Coleman In press), this way of modeling understanding is critical to understanding lies and lying in real-world, non-domain-confused, terms.²

In practice, our results show that people do not as individuals tend to follow a single criterion for determining whether or not something is a lie. They do not consider harm as a major factor at all, so they are clearly not consequentialists with regard to *labeling* of speech as a lie. It would appear, instead, that like deontists, people generally follow a domain-confused path, mixing criteria of propositional truth (even when *no falsehood* is conveyed) and expectations of deceit. This path has, as pointed out by Coleman (In press), some significant ethical consequences, as Lizzie's mother (above) finds to her chagrin.

REFERENCES

- BOND, C., & B. DEPAULO. 2006. Accuracy of deception judgments. *Personality and social psychology review*, 10(3), 214-34.
- COLEMAN, DOUGLAS W. In press. Some ethical consequences of the everyday construct of language. *LACUS Forum* 37.
- COLEMAN, DOUGLAS W. & BERNARD SYPNIEWSKI. In press. Orthoconcepts: How the properties they represent arise. *LACUS Forum* 37.
- Government product news / GPN*. 2004, May 17. International study of lying shows different attitudes among cultures. Retrieved from <http://americancityandcounty.com/issue20040101/international-study-lying-shows-different-attitudes-among-cultures>
- HUDSON, R. A. (1980). *Sociolinguistics*. Cambridge Textbooks in Linguistics.
- JOHNSTON, L. 2013, February 17. *For better or for worse*. [Cartoon]. Kansas City, Missouri: Universal Uclick. Retrieved from http://www.fborfw.com/strip_fix/2013/02/
- LABOV, W., S. ASH, & C. BOBERG. 1997, July 15. *A national map of the regional dialects of American English*. [Map]. Retrieved from http://www.ling.upenn.edu/phono_atlas/home.html
- SYPNIEWSKI, BERNARD. 2007. Domain confusion. *LACUS forum* 33:399-404.
- SYPNIEWSKI, BERNARD M. & DOUGLAS W. COLEMAN. 2011. Lies and lying in hard-science linguistics. *LACUS forum* 36:291-98.
- WARNOTT, EMILY. 2013. *Lying with the truth*. Toledo, OH: University of Toledo Master's Thesis. (To be available though the OhioLink ETD: <https://etd.ohiolink.edu/ap:1:14297348242839>)

² Given Warnott's (2013) results with international students, and the observation that different languages and cultures have different conceptual schemas, we think that an interesting line of future research would be to look deeper into different cultures' ways of thinking about lying. The topic has obvious theoretical and practical implications not only for fields like translation and second language acquisition, but also for everyday matters of cross-cultural understanding.

- YNGVE, VICTOR H. 1996. *From grammar to science: New foundations for general linguistics*. Philadelphia: John Benjamins.
- . 2006. Formalizing the observer in hard-science linguistics. *LACUS Forum* 32:267-76.

This article was first published at lacus.weebly.com.





A LINGUISTIC PERSPECTIVE ON A MULTILINGUAL ESL/EFL TEACHER

JACQUELINE NENCHIN

Molloy College, Rockville Centre, New York

Abstract: This paper explores the development of multilingualism in an ESL/EFL teacher of Chinese origin from Long Island, New York, currently working in Hong Kong. It is based on a larger study of cross-sectional design, involving seven monolingual and multilingual ESL teacher candidates and their self-narratives about their first and second language literacy development. This research was conducted to add to the growing body of research on bilingual and multilingual teachers of English (Ellis, 2004; Kamhi-Stein, 2004; Lipovsky, & Mahboob, 2010), specifically to discover more about their background and needs in teacher preparation programs.

Keywords: multilingualism, second language acquisition, teacher preparation programs

Languages: English, Mandarin

THERE IS A GROWING BODY OF RESEARCH on multilingual teachers of English (Braine 2002, 2010; Ellis 2004a, 2004b; Kamhi-Stein 2004; Lipovsky & Mahboob 2010), specifically to discover more about their background and needs in the classroom and teacher preparation programs. Some of this research focuses on classroom interaction, teacher and student perceptions, and knowledge about language (KAL) (Byrnes 2012), while other research centers on literacy and language learning autobiographies, in which teachers and pre-service teachers recount and reflect on their experiences with developing literacy in their first language and proficiency in other languages. However, very little research focuses on the actual language use of teachers in these memoirs and reflections.

The current study is based on doctoral research involving seven multilingual ESL teacher candidates at a suburban New York college and their self-narratives about their first and second language literacy development (Nenchin 2011). The original research explored both the content and the academic language of the autobiographical texts by the use of a cross-sectional design that employed both a thematic content analysis and a Systemic Functional Linguistics (SFL) analysis. The study presented here offers a longitudinal linguistic perspective on the language and literacy development of one of the teacher candidates - a multilingual teacher, originally from China, who

immigrated to Queens, New York, in 1995, when she was eleven years old. Jasmine (a pseudonym) was a 25-year-old graduate student in a Master's in TESOL program when the study began in 2009. The central research question is: "What do a multilingual teacher learner's autobiographical and reflective texts and interview questions reveal about her language development over time?"

1. **A MULTILINGUAL LINGUAL TEACHER** The first language Jasmine spoke was Mandarin; thus, by Bloomfield's "bio-developmental definition" (Davies 1996: 156), she is a native speaker of that language. After her arrival in Queens, the most culturally and linguistically diverse borough of New York City, she learned English and Cantonese, the former in middle school and high school and the latter in the community in which she lived. In high school, she studied French, and in college, she learned Japanese (see **Figure 1**).

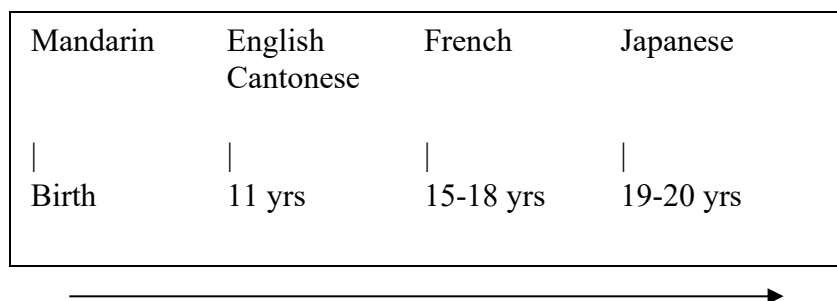


Figure 1. Language and age at time of introduction.

Using the Common European Framework (see Appendix A), Jasmine reported her proficiency level of her three main languages at the beginning of the study as indicated in **Table 1**:

Proficiency in L1 on a 0-6 point scale	Proficiency in L2 on a 0-6-point scale	Proficiency in L3 on a 0-6-point scale
6 (Mandarin)	5 (English)	3 (Cantonese)

Table 1. Self-reported proficiency level.

In a recent interview, she noted that her proficiency in Cantonese has increased since she moved to Hong Kong but did not categorize the improvement using the above framework.

When Jasmine completed the TESOL Master's Program, she sought a job in Queens and on neighboring Long Island, but had to go to the People's Republic of China for personal reasons, where she took a refresher course in Mandarin. She eventually found work in Hong Kong, where she also married, had a child, and currently lives and teaches. In her most recent position as a language consultant, she teaches English and Mandarin, and continues to develop her knowledge and use of Cantonese.

2. **OVERVIEW OF TEXTS** The primary texts used for this study comprise a literacy autobiography, a linguistic autobiography, and a reflection on student teaching. These texts were written as part of Jasmine's coursework. The two autobiographies were written a semester apart at the beginning of her graduate studies, whereas the reflection was written at the end. These texts are significant in the graduate program because they represent her development as a TESOL professional, with the student teaching as the capstone experience. In terms of Jasmine's writing development, the

texts represent her earliest graduate writing in the case of the autobiographies and her final writing in the case of the reflection, so an analysis of them could reveal changes in her writing over time. The texts are of varied lengths and fall mostly into the text type of recount, which Butt et al. define as "a story used to tell what happened by recounting a sequence of events ... and reveal[ing] the significance of the people and events in the story by sharing our personal feelings about them" (2012: 256), though the reflection does not relate her experiences in the classroom in chronological order. Instead, she organizes them with an introduction, conclusion and two body paragraphs that recount her experiences at the high school and the elementary school where she student taught. All three texts involve some reflection on past experiences and how they relate to current and future experiences with literacy and literacy teaching.

In terms of length, the texts are relatively short, and the reflection is the shortest of the three, while the literacy autobiography is the longest, as indicated in **Table 2**, which also provides the number of clause complexes (complete sentences that consist of at least one independent clause and that may contain other dependent and independent clauses) in each text.

Linguistic Autobiography		Literacy Autobiography		Reflection		Total Number	
Words	Clause Complexes	Words	Clause Complexes	Words	Clause Complexes	Words	Clause Complexes
1,009	56	1,563	86	633	40	3205	182

Table 2. *Length of the Texts in Words and Clause Complexes.*

The median length of the texts is 1,009 words, and the mean length is slightly greater at 1,068 words. A secondary data source for this study is an interview conducted in May 2013 via Skype with accompanying written responses. The interview text was not analyzed for grammatical features but for thematic content. Its main function in this study is to supply updated background information on Jasmine's language teaching and learning, discussed in section 6.

3. ANALYSIS OF TEXTS The method for analyzing the three main texts is a Systemic Functional Linguistics (SFL) analysis of the ideational and interpersonal metafunctions. SFL is a model of language that connects language with its social context. "Systemic" means that grammar is viewed as consisting of system networks that contain the patterns of choices through which people make meaning (Halliday and Matthiessen, 2004). One example of a system is polarity (*Jasmine is here. Jasmine is not here.*). "Functional" means that the model centers on the practical uses of language in context, not on rule-based or formal grammar.

The beginnings of SFL can be traced to Malinowski's research (1923), especially for his work on the study of meaning from both ethnographic and linguistic perspectives and his ideas about context of culture and context of situation; Firth (1957) for his theory of system-structure; Hjelmslev (1948); and the Prague School of Linguists (Mathesius and others). Early on, this systemic theory had a paradigmatic focus, that is, a perspective of the interrelationships of the sounds, characters, and grammar of a language and the ways in which they create meaning together. The theory was more fully developed in England by M.A.K. Halliday in the 1950s originally with regard to Chinese and subsequently with regard to English. He and later Hasan, Martin, and Matthiessen further expanded the theory that is today known as SFL.

SFL argues that every language is comprised of three major functions, known as metafunctions: (a) the ideational (with its two components – experiential, which is the construal of experience, and logical, which is the sequencing of experience), (b) the interpersonal, which is about the ways in which relationships among people are expressed, and (c) the textual, which involves the cohesion and coherence of discourse (see **Table 3**).

Metafunctions of Language		Explanation
Ideational	Experiential	How experience is encoded
	Logical	How experiences are connected
Interpersonal		How interaction is encoded
Textual		How we organize the experiential, logical, and interpersonal meanings into a whole that is coherent and cohesive

Table 3. *The three metafunctions of language in SFL theory.*

The experiential metafunction, one of the two parts of the ideational metafunction, expresses experience of the world in terms of *things* (nominal groups: people, places, concrete things, and abstract ideas), *processes* (verbal groups), and *circumstances* (adverbial groups, prepositional phrases, and nominal groups that express when, where, how, and other such information). The logical metafunction represents how clauses are linked to one another, that is, through coordination or subordination. The interpersonal metafunction refers to how speakers and writers use language to interact, including how they express an opinion, take a position, and reveal power relationships between them and their audience. This metafunction involves mood (imperative, declarative, and interrogative) and modality.

The analysis in this study focused on the experiential and interpersonal metafunctions in order to explore how Jasmine used language (a) to express and connect her experience of language and literacy learning and (b) to encode the interactions in her multilingual and literate life. Through the SFL analysis, an examination of her texts for the characteristics of advanced language was made possible.

4. THREE FEATURES OF ADVANCED LANGUAGE. Halliday and Matthiessen (2004) maintain that there are several features of advanced language, including grammatical metaphor and the three discussed in this article: rankshifting, grammatical intricacy, and lexical density.

4.1. RANKSHIFTING. Rankshifted, or downranked, clauses only appear in a nominal group or an adverbial group. These clauses are embedded in the clause and function as an essential part of the clause (and in the same tonal group from a phonological perspective), not as an interruptive element. In an SFL analysis, these clauses are indicated in doubled square brackets. Rankshifted clauses may function in various participant roles (as a nominal group, e.g. as the actor of an action

or as the recipient of an action in the transitivity structure of a clause)¹ with various types of processes, within a nominal group, and within an adverbial group/prepositional phrase, but they cannot occur within verbal groups (Process in SFL terminology). They are typically defining relative clauses or post-modifying nonfinite clauses. Two examples of rankshifted clauses from Jasmine's linguistic autobiography can be found in the following clause complex:

I learned [[to speak more than two languages]] after I came to the United

States, and English and Mandarin are the ones [[that I use most frequently.]]

The first set of brackets encloses a non-finite clause functioning as a nominal group, and the second set encloses an embedded clause (defining relative clause).

A count of the ranked and rankshifted clauses in the text relates to the logical aspect of the experiential function in SFL and provides a picture of the complexity of a text, thereby indicating one aspect of advanced writing. Jasmine's texts were analyzed for her use of rankshifting:

¹

Literacy Autobiography			Linguistic Autobiography			Reflection on Student Teaching		
# of Clause Complexes	# of Ranked Clauses	# of Rank-shifted Clauses	# of Clause Complexes	# of Ranked Clauses	# of Rank-shifted Clauses	# of Clause Complexes	# of Ranked Clauses	# of Rank-shifted Clauses
86	154	44	56	106	29	40	54	26

Table 4. Rankshifting in the Texts

Table 4 indicates how many clauses are ranked (independent and dependent clauses) and how many are rankshifted. **Table 5** shows the percentage point increase between the first two texts, which were written only one semester apart and average 28%, and the final one:

Literacy Autobiography	Linguistic Autobiography	Reflection on Student Teaching	Percentage Point Increase
28.6%	27.4%	48.1%	20%

Table 5. Percentage of Rankshifting among Total Number of Clauses in the Texts

The percentage point increase between the autobiographies and the reflection represents an impressive 200% increase in the use of rankshifting. Rankshifting not only occurs at various frequencies but also on various levels. Discerning the levels of rankshifting provides a closer perspective on Jasmine's deployment of it. In **Figure 2**, the different levels of rankshifting are

¹ Participants are inherent in a clause and involved in the process; there is at least one participant in any clause.

presented. In the texts, most rankshifting takes place on the first level and some on the second level.

Ranking Clause Level: I often self-create worksheets
Rankshifted Level 1: that incorporate word problems
Rankshifted Level 2: connecting to everyday life.

Figure 2. Rankshifting

Table 6 provides a comparison of the texts with regard to the ratios of level 1 and level 2 rankshifting

Level 1			Level 2		
Literacy Auto-biography	Linguistic Auto-biography	Reflection on Student Teaching	Literacy Auto-biography	Linguistic Auto-biography	Reflection on Student Teaching
39	29	21	5	0	5

Table 6. Rankshifting levels among texts

Rankshifting on the second level does not increase from the first to the second paper, written early in Jasmine's studies and only one semester apart, but it does increase between them and the reflection, which was written two years later. In the literacy autobiography, the ratio is 5:39, or 12.8%, while in the reflection it is 5:21, or 23.8%, which is an 85% increase. If the ratios for texts 1 and 2 are merged, the ratio becomes 5:68, or 7%, and the increase in text 3 becomes 343%. Thus, Jasmine's use of rankshifting on the second level greatly increased over time. There is no rankshifting on the third level in any of the texts, which indicates that her writing is advanced, but there is potential for further development.

42. GRAMMATICAL INTRICACY. Halliday (1978) maintains that spoken and written language are both complex but not in the same way. He points out that written language is more lexically dense than spoken language, whereas spoken language is more grammatically intricate. This intricacy results from the number of ranking clauses connected by one of the two types of logical interdependency - hypotaxis (subordination excluding embedded clauses) and parataxis (independent clauses) - to create elaborate clause complexes. If, for example, a clause complex has six ranking clauses, it is more grammatically intricate than a clause complex that has two ranking clauses. An analysis of grammatical intricacy reveals where the texts stand along the continuum of grammatical intricacy, in other words, which texts are closer to spoken language and which are closer to written language.

An analysis of Jasmine's texts for grammatical intricacy can be done by dividing the number of clauses connected paratactically and hypotactically by the number of clause complexes. The grammatical intricacy of the Jasmine's texts is presented in **Table 7**. She wrote the literacy autobiography first. The average for the two types of text is very close at nearly two ranking clauses per clause complex. This number is typical for written language; the ideational content is packed

into just a couple of clauses. In spoken language, the ideational content is loosely spread out across a string of clauses (Halliday and Matthiessen, 2004).

Text	Semester Written	Average # of Ranking Clauses per Clause Complex
Literacy Autobiography	Spring 2007	1.79
Linguistic Autobiography	Fall 2007	1.89
Reflection on Student Teaching	Spring 2009	1.35

Table 7. *Grammatical intricacy: Average number of ranking clauses per clause complex*

When the grammatical intricacy in her texts is mapped along the continuum of spoken and written language (see **Figure 3**), a clear move towards more complex, written-like language is indicated.

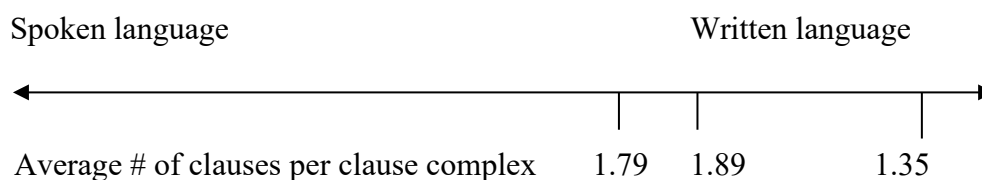


Figure 3: *Continuum of grammatical intricacy*

An average of the first two texts shows the average number of clauses per clause complex at 1.84, so the decrease is 26.6%. Thus, in the two-year lapse since the autobiographies were written, Jasmine's writing became more grammatically complex, though both her early texts and her final text have a grammatical complexity more typical of written language than of spoken language.

43. **LEXICAL DENSITY.** Lexical density is a characteristic of text: The greater the lexical density, the more the text is written-like, and the less the lexical density, the more the text is spoken-like. Lexical density then stands in an inverse relationship to grammatical intricacy. In Jasmine's texts, the number of lexical items was divided by the number of ranking clauses to determine the lexical density. Grammatical words such as articles, prepositions, and conjunctions were excluded by eliminating them from the word count. The lexical density is calculated as follows:

$$553 \text{ lexemes} / 54 \text{ ranked clauses} = 10.24 \text{ lexical density}$$

Figure 4 reveals a slight increase from the literacy autobiography to the linguistic autobiography, which were written one semester apart, but a marked increase (more than double) from them to the reflection, which was written two years later.

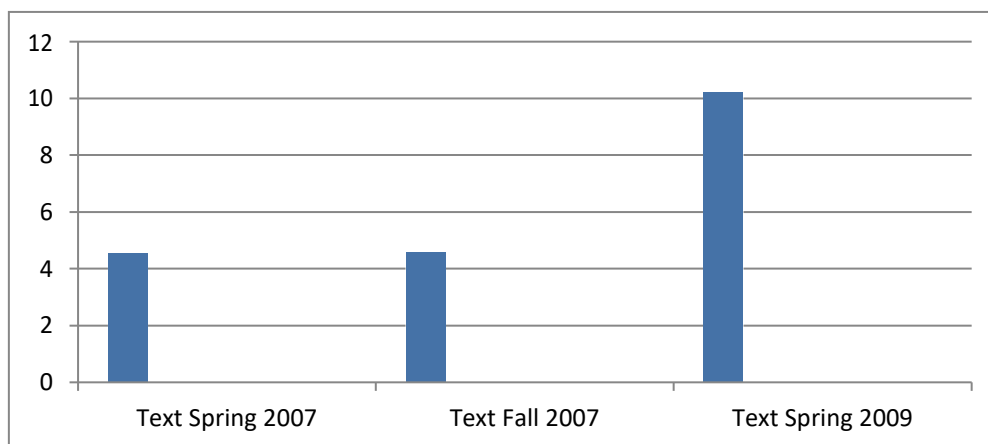


Figure 4. *Changes in lexical density over time.*

Mapping these densities onto the continuum of spoken to written language, it is possible to observe that the writer has moved to a more lexically complex, more written-like text.

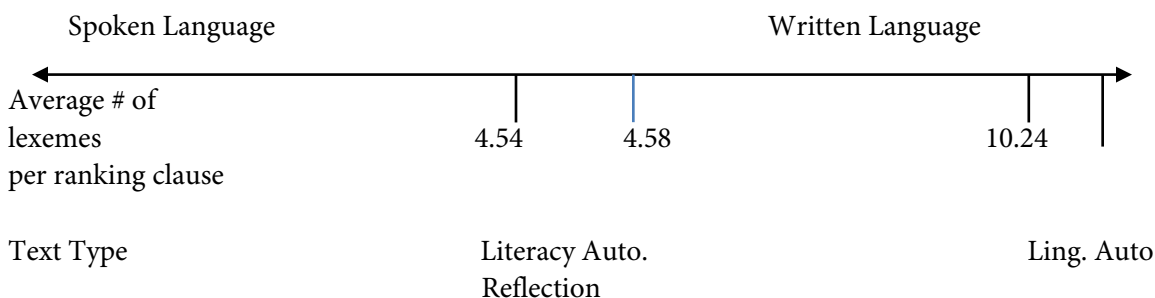


Figure 5. *Continuum of lexical density in Jasmine's texts.*

An average of the first two texts, which were written in consecutive semesters, shows the number of lexemes per clause as 4.56. When this number is compared with the reflection, the increase averages more than five lexemes (5.68) per clause. This increase in lexical density is indicative of further advancement in Jasmine's writing skills in English and possibly also of an adjustment due the change in the generic requirements of writing a reflection on student teaching, though the autobiographies also involved some reflection.

4.4 DEVELOPMENT OF CONFIDENCE IN LITERACY AND LEARNING. THE SFL analysis of the first two texts revealed a “syndrome” of non-assertiveness and limited self- agency in her language development. (This was also the case with **all** the other graduate students in the original doctoral study.) One example of this grammatical syndrome was use of the passive voice.

4.5. VOICE. Halliday and James (1993) found that VOICE in English is a skew system, which means that 90% of clauses are in the active voice and 10% are in the passive voice. The active clauses are considered unmarked, while the passive clauses are marked. With that general understanding, it is possible to compare Jasmine's use of passive with the 90:10 ratio. Any given register may vary from this because different registers have different profiles. The sections of the two

autobiographical texts that refer specifically to her language development show a higher than average rate of passive use and a rate higher than the reflection.

Literacy Autobiography	Linguistic Autobiography	Reflection
15%	15%	2%

Table 9. *Rate of passive voice usage.*

The linguistic autobiography has the clearest example of progression from passive involvement to active involvement in the language development process; Jasmine tells about her early experiences with English, set out sequentially in Table 10:

Clause Complex	Clause #	Clause
C (3 rd)	5	English was introduced to me in elementary school.
E (5 th)	9, 10	However, since nobody speaks English around me, I was confused about the purpose of studying English.
G (7 th)	14, 15	Queens was the first town I lived in after I came to America, and I was shocked about the variety of languages being spoken in the community
H (8 th)	17, 18, 19	Before I left China, I was told about the language difficulty I would be encountering, I was counseled that since I'll be in school, I could easily learn English.

Table 10. *Jasmine's ontogenesis (in English): Selected clauses in the passive voice*

After the eighth clause complex, Jasmine no longer uses the passive voice in describing her language learning experience. In the reflection, she shows agency as the language teacher.

As noted earlier, in the passive voice, the Agent follows the process and the preposition *by*. Halliday and Matthiessen (2004) point out that “prominence in the message means functioning either (i) as marked Theme (i.e. Theme but not Subject) or (ii) as ‘late news’ – that is, occurring after some other participant, or circumstance, that already follows the Process” (296). Thus, the Agents in Jasmine's clauses are given prominence.

In the reflection on student teaching, Jasmine uses the passive voice less frequently and only once in regard to herself: “In the course of student teaching, I was given the opportunity to put theories into practice...”. The other instances are about her students and their learning experiences,

for example, “High school students are also pressured...”. In her writing about her teaching experiences, she is the agent more frequently than when she is writing about her learning experiences. This is commensurate with her new role as a multilingual teacher, who has achieved proficiency in the languages that she teaches.

5. JASMINE’S CURRENT TRAJECTORY. The recent interview via Skype revealed that Jasmine continues to live a multilingual life in Hong Kong. She describes her professional situation:

During the first 1.5 year in HK, I taught English enrichment programs in various HK public and private schools. Grade level ranges from 7th grade to K1. Currently I’m working in an insolvency office as a full time in house language consultant. I’m responsible to teach English to the ... staffs and to enhance the Mandarin skill of all office personals (with or without Chinese background).

She explains that although she teaches mostly listening and speaking skills, she finds that students have the most trouble with writing. The biggest issue is

how to inspire students or anyone to be creative and write more. When I was teaching English enrichment class to P6 students, despite of whether they’re in the gifted group or the regular group, they all seemed to have trouble in writing. Most of the tasks were describing the incidents happening in a comic strip. Many students ... would struggle to write down 2-3 sentences, and refuse to write more. The same thing happened to my Mandarin students too, with or without Chinese background. Writing skill requires lots of practice and it’s time consuming. It’s much harder to produce writing in the second language.

She also worries about teaching discrete grammar points, such as the definite article, and the differences between Mandarin and English word order. She still remembers what she learned in grammar class and how her achievement there gives her confidence on the job.

6. CONCLUSION. The positive changes in Jasmine's writing over the course of the two years of her graduate studies and in her assumption of the role of teacher are evidenced in the examination of the data through the SFL and thematic content analyses. She expresses herself with more confidence, and her texts display noticeable improvement in the complexity of her written language over time. The causes of the improvements in her use of the features of advanced writing cannot be attributed to coincidental learning of language in the graduate program alone because language and literacy development is not the result of schooling in isolation, as evidenced in the content of the texts themselves (Nenchin 2011). The study suggests, however, the need for further research to address issues of language development as part of teacher preparation, rather than leaving it to chance. It also shows that a multilingual teacher whose L1 was not English can develop into a successful ESL/EFL teacher.

REFERENCES

- BRAINE, GEORGE. Academic literacy and the nonnative speaker graduate student. *Journal of English for academic purposes*, 1(2002): 59-68.
- BRAINE, GEORGE. *Nonnative speaker English teachers: Research, pedagogy, and professional growth*. New York: Routledge, 2010.
- BUTT, DAVID; FAHEY, RHONDA; FEEZ, SUSAN; & SUE SPINKS. *Using functional grammar: An explorer's guide*. South Yarra, Vic., Australia: Palgrave Macmillan, 2012.
- BYRNES, HEIDI. *The bilingual turn: Minding our language*. (Plenary Session.) TESOL International Annual Convention, 2012.
- COUNCIL OF EUROPE. *Common European Framework of References for Languages: Learning, teaching, assessment* (English ed.). Cambridge, UK: Cambridge University Press, 2012. Retrieved from http://www.coe.int/T/DG4/Portfolio/documents/Framework_EN.pdf
- DAVIES, ALAN. *The native speaker: Myth and reality*. Clevedon, UK: Multilingual Matters, 2003.
- ELLIS, ELIZABETH. "Language background and professional competencies in teaching ESOL." *English Australia journal*, 21(2) (2004a): 55-71.
- ELLIS, ELIZABETH. "The invisible multilingual teacher. *International journal of multilingualism*, 1 (2) (2004b): 90-108.
- FIRTH, JOHN. R. Modes of meaning (1951). In *Papers in linguistics 1934-1951*. J. R. Firth (Oxford, UK: Oxford University Press, 1957), 190-215.
- HALLIDAY, MICHAEL A. K. *Language as a social semiotic: The social interpretation of language and meaning*. London: Edward Arnold, 1978.
- HALLIDAY, MICHAEL A. K., & JAMES, Z. L. A quantitative study of polarity and primary tense in the English finite clause. In J. M. Sinclair, M. Hoey, & G. Fox (Eds.), *Techniques of description: Spoken and written discourse* (pp. 32-66). New York: Routledge, 1993.
- HALLIDAY, MICHAEL A. K., & MATTHIESSEN, CHRISTIAN M. I. M. *Introduction to functional grammar* (3rd ed.). London: Edward Arnold, 2004.
- HJELMSLEV, LOUIS. Structural analysis of language. *Studia Linguistica*, 1, 1948. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9582.1947.tb00360.x/abstract>
- KAMHI-STEIN, LIA. D. (Ed.). *Learning and teaching from experience: Perspectives on non-native English-speaking professionals*. Ann Arbor, MI: University of Michigan Press, 2004.
- LIPOVSKY, CAROLINE, & MAHBOOB, AHMAD . 2010. "Appraisal of native and non-native English speaking teachers." In A. Mahboob, *The NNEST lens: Non-native English speakers in TESOL*, (pp. 154-179). Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2010.
- MALINOWSKI, BRONISLAW. The problem of meaning in primitive languages. Supplement 1, in *The meaning of meaning*, eds. C. K. Ogden & I. A. Richards. (New York: Harcourt, Brace and Company, 1923), 296-336.
- NENCHIN, JAQUELINE. *Native and nonnative English-speaking teachers and their academic literacy*. Dissertation. Macquarie University Digital Collection, 2011.

Appendix A

Common European Framework 7-point Proficiency Scale

- 0 no proficiency
 - 1 basic user (emergent)
 - 2 basic user (high beginner)
 - 3 independent user (low intermediate)
 - 4 independent user (high intermediate)
 - 5 proficient user (advanced)
 - 6 proficient user (mastery)
-

(Council of Europe, 2006)

This article was first published at lacus.weebly.com.



LACUS FORUM
Journal of the Linguistic
Association of Canada and the
United States

VOLUME 40

NUMBER 4, 2020

CONTENTS



- | | |
|---|----|
| 15. <i>LE CHOEUR</i> OF NEW BRUNSWICK ACADIA--REGIONAL DYNAMIC
OF GROUP MEMBERSHIP IN <i>LE PIQUE-NIQUE</i>
<i>Christina Keppie</i> | 1 |
| 16. GHETTO AND CHIASSO
<i>J. P. Maher</i> | 15 |
| 17. SUBSTITUTIONS AS SPEECH ERRORS: “ <i>I RESEMBLE THAT REMARK!</i> ”-CURLY
<i>William J. Sullivan and Sarah Tsiang</i> | 33 |
| 18. BILINGUAL HIGHER EDUCATION IN THE UNITED STATES:
NEEDS, RESOURCES, PROSPECTS
<i>H. Stephen Straight</i> | 42 |
| 19. TOWARDS AN EMBODIED LINGUISTICS: THREE HIATUSES
<i>Lucas van Buuren</i> | 51 |
| 20. THE POWER OF THE INDEFINITE ARTICLE
<i>Leszek Berezowski</i> | 60 |
| 21. KARL BÜHLER’S TWO-FIELD THEORY OF LANGUAGE:
A COGNITIVE VIEW
<i>Henryk Kardela</i> | 68 |



LE CHOEUR OF NEW BRUNSWICK ACADIA – REGIONAL DYNAMIC OF GROUP MEMBERSHIP IN *LE PIQUE-NIQUE*

CHRISTINA KEPPIE
Western Washington University

Abstract: This article is a literary and cultural analysis of Rino Morin Rossignol's one-act play *Le pique-nique*, published in 1982. The play is contrasted and compared to an ethnographic research of New Brunswick Acadia's three French-speaking regions in an effort to understand the meaning systems of the concepts *Acadie* and *Acadien*, which is a central theme of *Le pique-nique*. The role of membership, language, and territory are discussed to discover a strong parallel between the play and the cultural ideologies that currently make up the Acadian diversity of New Brunswick. The membership of the Brayon from the North-West remains ambiguous, while the South-East and the North-East battle for the title of authenticity. The conclusion by the character Paul (the author's alter-ego) suggests that Acadia would be better served through an acceptance and embrace of cultural differences between the regions, which turns out to be the mission of the 2014 World Acadian Congress.

Keywords: French, Acadia, Acadian, regional identity, New Brunswick, meaning systems

Languages: English, French

IN ESSENCE, THIS ARTICLE DEMONSTRATES the accurate observations of a playwright who wanted to write French New Brunswick / New Brunswick Acadia as he saw, felt, lived, and discussed it. The result was the 1982 one-act play *Le pique-nique*. Like many Acadian artists, Rino Morin Rossignol wanted to show what he felt to be the miscommunication that arose from the disrespect of differences in thought and identity, such as is described in *Acadie 72: Naissance de la modernité acadienne* by David Lonergan (2013).

In recent decades, the New Brunswick Acadian community has taken many positive steps in neutralizing the marginalization they have endured under Anglophone control, especially regarding their social, educational, and linguistic rights. By doing so, ideology has shifted in nature as Acadians now see and enforce themselves as equals in society. In 1981, the Legislative Assembly of the officially bilingual Canadian province of New Brunswick implemented *An Act Recognizing the Equality of the Two Official Linguistic Communities in New Brunswick*

(commonly referred to as Bill 88), recognizing the statutory equality of the province's two linguistic communities (anglophones and francophones). Essentially, the design of this legislation was to protect and promote the equal rights and privileges of New Brunswick's native French-speaking population, or Acadians.¹ While initially more declaratory than practical at the time, the legislation of Bill 88 was eventually enacted with the amendment of the Canadian Charter of Rights and Freedoms in 1993, contributing to the development and expansion of French Canada's globalizing ideological discourse movement that had slowly been taking root in New Brunswick since the end of the Premier Robichaud era of 1960-1970 (Heller and Labrie 2003).² The result of this growing globalizing ideology and the implementation of Bill 88's original fundamental principles is that, in New Brunswick, Acadians now view themselves as a linguistic community comprised of three socio-culturally diverse regions. Over the past few decades, these regions (simply referred to as the North-West, the North-East, and the South-East, and taken together in **Figure 1**) have collectively benefitted socio-economically from the increasing contact and communication between the two main linguistic communities of the province on both the local and international level.

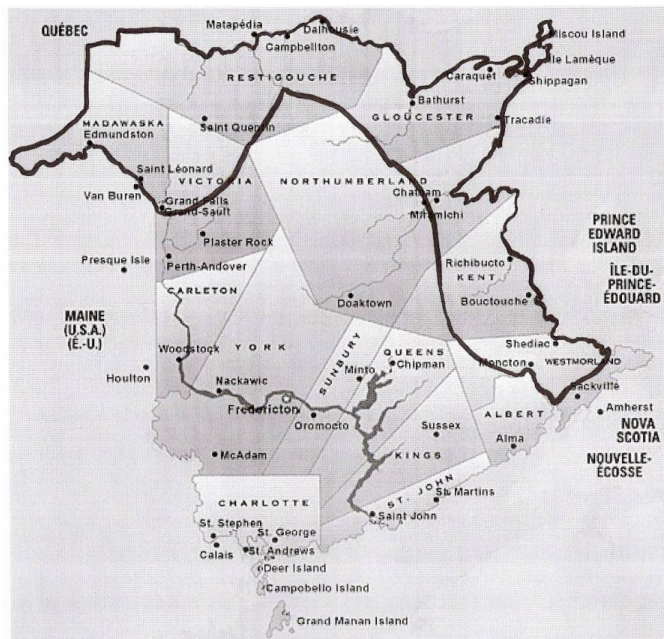


Figure 1. *New Brunswick Acadia (Keppie 2009)*

1. NEW BRUNSWICK ACADIA. However, due to this three-way splintering of the Acadian linguistic community that may or may not have been foreseen by the creators of Bill 88, the terms Acadia and Acadian have developed multiple, region-dependent meanings throughout New Brunswick Acadia (Keppie 2011), each of which parallel one of the ideological movements described by Heller and Labrie. Acadians of the New Brunswick North-West (frequently referred to as *les*

¹Government Plan on Official Languages 2011-2013. <http://www2.gnb.ca/content/dam/gnb/Departments/iga-aig/pdf/OfficialBilingualismAStrength.pdf>

² Heller and Labrie provide very clear details into the ideological discourse periods/movements to have characterized French Canada in the past century. Specifically, they detail the genealogical, modernizing and globalizing movements which have each seen popularity in New Brunswick Acadia.

Brayons) maintain a very modernizing approach to those concepts that was widely adhered to throughout the province and Canada during the Robichaud era (Heller and Labrie 2003). By and large, they consider the French language and geographical space as what primarily unifies Acadians and defines the term Acadia, yet their own membership within the community remains one of constant debate, due largely to their ancestral roots that differ from Acadians of the two eastern regions.³ The importance of ancestral roots is of first importance to Acadians of the North-East in their understanding of what is Acadia and what it means to be Acadian. They hold a traditionalist perspective toward the concepts, meaning that living in a designated geographical space and even the French language remain secondary to having a lineage that can be traced back to the 1755 Acadian Expulsion. In the South-East region, Acadians consider their *acadianité* (Acadian identity) through a globalizing ideological lens that considers the economic advancement of the whole community over the importance of language maintenance, lineage, and geographical space. They in particular warmed to the growing linguistic contact between francophones and anglophones and advocated community membership through a continuing contribution to the Acadian cause of what was essentially the 1993 amendment to the Canadian Charter of Rights and Freedoms: the growth of cultural and educational institutions necessary for the advancement of all of French New Brunswick.

These different meaning systems found within French New Brunswick were the result of a qualitative, ethnographic-style research of Acadian discourse originally conducted in 2005 (Keppie 2009, 2011, 2013a). This research examined the meaning of the terms/concepts *Acadia* and *Acadian* in relation to the three French Canadian discourse movements via the socio-economic factors of primarily region, but also social class, age and gender in French-speaking New Brunswick. From the results of these studies, it cannot be argued that each region clearly possesses their own manner of defining Acadia and Acadian that reflects a specific ideological discourse period described by Heller and Labrie. However, there is even evidence of a general New Brunswick Acadian collective ideology. Despite the regional diversity, the discourse of twenty-first century New Brunswick Acadians as a whole is a strong advocate of the globalizing movement. As the following quote taken from a participant of the 2005 interview cohort illustrates, a person can maintain membership with Acadia through a variety of (regional) lifestyles that are collectively beneficial to a globalizing socio-economy centered within, but not exclusively so, a non-political space or territory:

L'Acadie, ça représente un peuple, ce n'est pas tellement une définition géographique ...

il n'y a pas une définition stricte de qu'est-ce que c'est l'Acadie. C'est un regroupement

de gens qui s'identifient au titre acadien, d'ailleurs ils sont repartis partout à travers le

monde Pour moi, l'Acadie c'est tout simplement un regroupement de gens qui

s'identifient comme Acadiens par raison historique ou culturelle mais ça peut aussi

inclure des gens qui n'ont peut-être pas le lien historique mais par leur participation,

³ This debate and membership ambiguity have been well discussed in works such as those by Couturier (2002) and Belzile (2000).

leur intégration (Keppie 2011: 214).⁴

2. THE ACADIAN PICNIC. The interplay of these ideological perceptions with the discourse found in Rino Morin Rossignol's *Le pique-nique* demonstrates how divided, yet united, New Brunswick Acadia is. Written in an Acadian-style prose (and kept as such in the excerpts used in this article) and described as satirical by nature, *Le Pique-nique* took the Acadian public by storm when first published and then performed on stage, leaving audience members inquisitive to their collective identity. In the forward of the published form, Director Eugène Gallant wrote that *Le pique-nique* is intended to raise questions concerning Acadia and its people yet not necessarily provide answers. The play is a 'glorification of the parochial attitude' of New Brunswick Acadia (Rossignol 2001: ii), as portrayed through the chorus triumvirate, known simply as *le Choeur* which collectively comments on the dramatic action occurring between the three central characters of Lord Durham, Malo, and Paul. The role of *le Choeur* (henceforth referred to as 'the Chorus') echoes that of traditional Greek theater; providing insight to the characters when needed and explanations to the audience that could not be given by the characters themselves. However, while a Greek chorus is a generally homogeneous group, the chorus of *Le pique-nique* is illustrated as a somewhat dysfunctional family who sometimes agree, sometimes bicker. Rossignol creates this dysfunction by simply having three chorus members, one for each New Brunswick Acadian region (identified by the acronyms 'NE', 'SE' and 'NW' in the excerpts contained in the following pages). By doing so, he ultimately brings into play the dynamic of New Brunswick Acadia's cultural diversity. While on one hand all chorus members collectively represent New Brunswick Acadia through their unified commentary, the North-East will loudly claim its ancestral and cultural purity, the North-West plays the independent card and continuously questions its role as part of Acadia, and the South-East advocates its modernity and urbaneness, all the while conscious of its increasing language contact with the surrounding English-speaking communities that make the South-East the most linguistically heterogeneous region of the three, and thus the most linguistically assimilated (Perrot 2003).

2.1. MALO AND ACADIA. One of the main themes found in *Le pique-nique* is that of the Acadian space or territory, one also frequently associated with the meaning systems of the Acadia/Acadian concepts found in the work by Keppie (2013a). While the analyses had also accounted for the variables of socio-economic status, age, and gender, in addition to region, only the variable of region will be considered at present as *Le pique-nique* does not bring into play any of the other variables. The discussions linking space/territory to *acadianité* principally follow the inquiries of the character Malo. Malo represents Malobiannah, the heroine of a New Brunswick Madawaskan legend who is said to have saved her Malecite tribe by driving the Mohawk enemies over the edge of the waterfalls in Grand Falls/*Grand-Sault* (located in North-West New Brunswick, on the border of the Madawaska and Victoria counties). Malo's character reminds the audience of the importance of the First Nations in the history of the Acadians as they developed a mutually beneficial relationship during the colonial years of the seventeenth and eighteenth centuries. Having lost her way in the woods, Malo enters the scene at the beginning of the play by stumbling upon the Chorus

⁴ Translation: "Acadia represents a people; it doesn't really have a geographical sense to it ..., there is no strict definition of what Acadia actually is. It's a group of people who identify with being Acadian and in fact they're scattered everywhere throughout the world For me, Acadia is simply a group of people who identify themselves as Acadian for historical or cultural reasons but that can also include people who maybe don't have the historical connection but by their participation and involvement."

and Lord Durham. Malo admits to not knowing which *topatte* ('toe-path') to take, and in asking the Chorus for help, its members commence a large, heated discussion concerning the Acadian territory with everybody present that does not end with any sort of consensual agreement. Malo comes to understand that she has perhaps also metaphorically lost her way as both she and the Chorus do not see her *acadianité* completely eye-to-eye. First of all, Malo says that she comes from Madawaska County but that she is also from Grand Falls. The Chorus reminds her that Grand Falls is in fact located in the wooded Victoria County and thus, she lives in Acadia (Rossignol 2001: 4).⁵

Chorus: Vive les chutes de l'Acadie! / *Long live the falls of Acadia!*

Malo: C'est pas les chutes de l'Acadie, c'est les chutes de Grand-Sault. / *They aren't the falls of Acadia; they're the falls of Grand Falls.*

Chorus: Pis Grand-Sault, oussé que c'est la squaw? / *And Grand Falls, where is that, squaw?*

Malo: Me semble que c'est au Madawaska. / *I think it's in Madawaska.*

Chorus: Non, c'est dans Victoria ! / *No, it's in Victoria!*

Durham: Victoria?

Chorus: She says Grand Falls is in Madawaska and it's in Victoria in Acadia. You understand?

Durham: What?

Chorus: Victoria is a day-off in May. And Acadia is the country of the Acadians.

Here, Rossignol is choosing to have all three members of the Chorus attach a sense of physical space and borders to the meaning system of Acadia that include the town of Grand Falls, giving the audience/reader a taste of a possible Acadian 'map', yet adding to their inquisition as to where those borders may be limited. As an interesting parallel to this discussion, **Figure 2** summarizes the analyses made of mental maps provided by Keppie's 2005 research participants. The North-East (NENB in **Figure 2**) can be considered the spatial heart of New Brunswick as 100% of participants included that region in their map yet overall, all three regions are largely considered to be part of New Brunswick Acadia by the ensemble of participants (FNB in **Figure 2**). The North-West region (NWNB in **Figure 2**) received less inclusion, especially by its own participants, alluding yet again to the ambiguous role the North-West / the Brayon identity play in the New Brunswick Acadian community that was referenced here in earlier pages. Incidentally, **Figure 1** is in fact the result of a map overlay that was created from all the mental maps provided and is the

⁵ Translations in English follow in italics.

most accurate depiction currently available of the Acadian territory based from an ethnographic study. From that map, it is clear that Grand Falls is indeed within the boundaries of Victoria County but only just, signaling perhaps a reason for Malo's confusion regarding the location of the waterfalls. The one discrepancy, or perhaps a simple lack of need to be precise, is that *Le pique-nique* does not clarify whether or not all of Victoria County is part of Acadia, whereas analyses from Keppie's 2005 fieldwork illustrate that only the northern half as belonging within its borders, as we see in **Figure 1**.

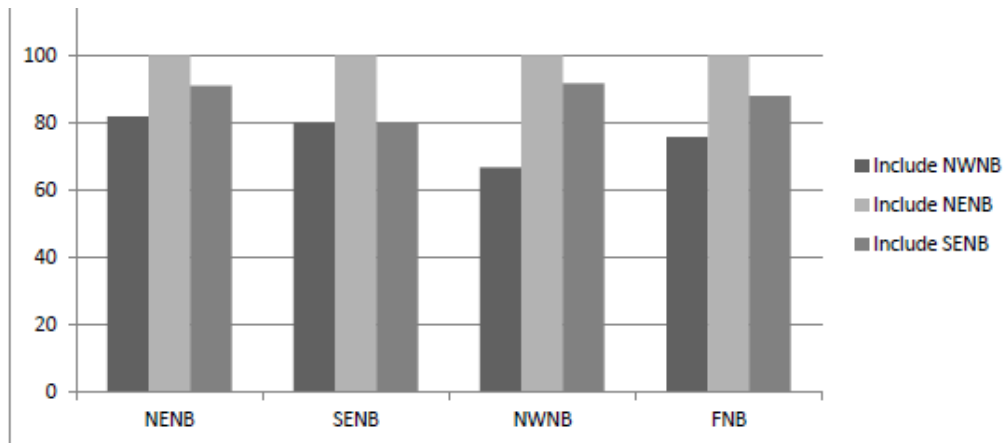


Figure 2. % of French New Brunswick Regions as part of Acadia (Keppie 2009)

2.2. LORD DURHAM AND ACADIAN. Questions concerning *acadianité* are further addressed in *Le pique-nique* through close interactions with the character of Lord Durham, a nod to John Lambton and the first Earl of Durham sent to Canada by the British government to investigate the 1837-38 rebellions of Upper and Lower Canada. Lord Durham famously wrote what is known today as the Durham Report, in which he recommended that Upper and Lower Canada be united as one province and made English the official language of the government with hopes of culturally assimilating the French colonies. While Lord Durham and his report are not actually part of the Acadian historical timeline, Rossignol's naming of the only non-French-speaking character after him was a shrewd move as he clearly represents struggles the Acadians have faced with British control and assimilation since their early days as colonials in the seventeenth century. As Lord Durham does not speak French, an admission given within his first interaction with the Chorus, the latter then goes on to adamantly deny him Acadian status when Malo asks them if he is one of them (Rossignol 2001: 1, 12):

Durham: What? Je ne la parle pas la française. Sorry! / *What? I don't speak French.*

Sorry!

[...]

Malo: Quoissé que c'est ça, de toute façon, c't'affaire-là ? C'tu un Acadien ça? /

What is this business, anyway? Is that an Acadian?

Chorus: Oh non ! Oh non! Never! Ca c't'un anglais fille! Ca c't'un anglais!

D'Angleterre! / *Oh no! Oh no! Never! That's an English, girl! That's English! From England!*

The role of the Chorus here is poignant as their much unified response to Malo's question signals the possibility that all of French New Brunswick actually maintains the belief that one's nationality/heritage and native language are the primary markers in determining one's *acadianité* which is in adherence with the modernizing movement that primarily dominated French New Brunswick in the 1960s and 1970s. In fact, Keppie's current comparison in French New Brunswick perspectives of the Acadia/Acadian concepts illustrate that the Chorus's statement does in fact ring true more than twenty years after *Le pique-nique* was first published, just not encompassing French New Brunswick as a whole as the play might suggest:

Firstly, 47.5% of participants perceive Acadien as a descendent of the 1755 Expulsion.

Secondly, Acadien speaks of a native speaker of French in the eyes of over 35 percent of all participants. To illustrate, a 23-year-old history student from Edmundston expressed his sense of the term using just these two meaning systems, exemplifying that meaning systems could indeed overlap: "You need to be francophone, first and foremost [...] I would say be of descent from those who were deported." (Keppie 2013a: 323)

2.3. NORTH-WEST MEMBERSHIP. As Malo processes the Chorus's stance on Durham's non-membership, she further pushes them on the meaning of Acadian by addressing the North-West membership debate and symbolism of the Brayon flag (Rossignol 2001: 13):

Malo: [...] pis vous disez que les Anglais sont pas des Acadiens, mais les

Brayons i' ont une étoile pour les Anglais su leur drapeau pis vous disez qu'i' sont des Acadiens. C'tu-ça ? / [...] *and you say that the English aren't Acadian, but the Brayon have a star for the English on their flag and you say that they are Acadian. Is that right?*

Chorus: Eh! Sainte misère! Non c'pas ça! / *Ah holy crap! No, that's not it!*

Malo: Pourquoi que les Brayons ont une étoile pour les Anglais su leur drapeau d'abord ? / *Well then why do the Brayon have a star for the English on their flag ?*

Here the Chorus splinters in its response, reflecting the cultural diversity within New Brunswick Acadia and the existence of multiple ideologies that characterize the globalizing movement of the (current) time period, as shown in Keppie (2011). The two eastern chorus members tell Malo that the issue appears more complicated than it actually is. They believe that the Brayon are indeed Acadians (for they are francophone with Acadian lineage) but that the Brayon are so confused by their multitude of ancestries that they are cannot affirm any kind of membership. As the North-West chorus member tries to interject to add its own two cents to the matter, the eastern members quickly reject him, initiating some light, playful, regional bickering meant to illustrate the cultural diversity between the regions (Rossignol 2001: 14-15):

- Chorus: (NE and SE): Worry pas ton tchoeur, Malobiannah. Les Brayons i' sont toutes fuckés. I' connaissent pas leus histoire zeux parce qu'i' n'avont pas d'histoire ! Pis ceux qui en avont un p'tit brin, well, i' a comprennont pas. I' sont toutes boloxés entre les Anglais, les Irlandais, les Ecossais, les Américains, les Français, les Québécois, pis les Indiens. I' avont pas le sense la race. / *Don't worry, Malobiannah. The Brayon are all fucked up. They don't know their own history because they don't have a history! And those who do have a bit of one, well, they don't understand it. They are all confused between the English, the Irish, the Scottish, the Americans, the French, the Québécois, and the Indians. They don't have a sense of race.*
- Malo: Oui, mais sont-i' Acadiens? / *Yes, but are they Acadians?*
- Chorus: (NE and SE): You bet!
- Chorus: (NW): J'pourrais-t-i'... / *Could I...?*
- Chorus: (NE and SE): Toé, mange tes ployes pis tais-toé [...] / *You, eat your ployes and shut up [...]*⁶
- Chorus: (NW) : Une autre insulte vous autres, les seafood pis les poutines, pis on déclare l'indépendance de la république. Vive la République! Vive

⁶ Ployes are buckwheat pancakes which have become a traditional, ethnic marker of North-West New Brunswick French speakers.

l'Indépendance! Vive la République du Madawaska! / *Another insult from you guys, seafood and poutine. We declare the republic's independence. Long live the Republic! Long live the Independence! Long live the Republic of Madawaska!*⁷

Chorus: (NE and SE): Vive l'Acadie! Vive l'indépendance! Vive l'Acadie! / *Long live Acadia! Long live the independence! Long live Acadia!*

Rossignol again succeeds in encouraging further inquiry on behalf of the audience/reader; this time regarding Brayon acadianité, for the matter remains completely unresolved among the Chorus as a whole. As well, the North-West member never singularly admits to being Acadian or not anywhere in *Le pique-nique*, nor does he further discuss the issue of language. Nevertheless, the North-West agrees that he lives in Acadia when/by speaking in harmony with the rest of the Chorus.

Le pique-nique by no means clarifies the current Acadian status of the North-West, nor is it meant to. Rather, it acknowledges its continuous debate and is a perfect example used to illustrate 1) the fact that to live in Acadia does not necessarily equate to being Acadian and 2) that each concept evokes separate and regionally diverse meaning systems (Keppie 2013a, 2013b). Malo tells the Chorus that while she is from Madawaska County, she does not consider that to be home of the Acadians; so how could she live in Acadia? Language boundaries prevent Lord Durham from understanding the exchange, so the Chorus explains to him in English that 'Indians' are not Acadians either but that she lives within the Acadian physical space (Rossignol 2001: 16), which for this article could be equated with **Figure 1**:

Durham: She is not Acadian?

Chorus: Oh no! Oh no! Never. She is Indian and Indians are not Acadians.

Malo: Quoissé? / *What's that?*

Chorus: On y dit que les Indiens sont pas des Acadiens. / *We're telling him that Indians are not Acadians.*

Malo: Certain! On reste à Grand-Sault. / *Certainly! We live in Grand Falls.*

Chorus: Oui, mais Grand-Sault c'est en Acadie, fille. / *Yes, but Grand Falls*

⁷ Here, 'poutine' refers not to the French Canadian dish of French fries, cheese curds and gravy, but rather to *poutine râpée*, a traditional South-East New Brunswick culinary dish, consisting in their most common form of potato dumplings stuffed with pork.

is in Acadia, girl.

Malo: Ben si que Grand-Sault c'est en Acadie, chu t'une acadienne
d'abord. / *Well if Grand Falls is in Acadia, then I'm an Acadian.*

Chorus: Tu restes en Acadie, mais t'es pas acadienne. Sors du bois, fille. / *You
live in Acadia, but you're not Acadian. Get out of the woods, girl.*

Durham: What is it? What is it?

Chorus: We are telling her that she lives in Acadia, even if she is not an
Acadian and even if she says she does not live in Acadia but in
Madawaska which is not true either because Grand Falls is not in
Madawaska but in Victoria and so she is living in Acadia even if
she is not an Acadian.

These interactions revolving around the concept of the Acadian physical space lead the two eastern region chorus members to enter into a tug-of-war over the claim to the true Acadian center, yet another great example of the real-life tug-of-war debate that is continuously part of the Acadia/n definition. The town of Caraquet in the North-East and the city of Moncton in the South-East are equally identified as the Acadian capital, though to choose one over the other is a clear determination of one's ideological adherence (Keppie 2012, 2009). In the exchange scripted below, the North-West does not identify itself as the Acadian heartland but asks the eastern regions why they don't even consider the Brayon / the North-West region, given that they are said to be part of the Acadian physical space. The eastern chorus dismisses the North-West from partaking in the debate with yet another playful insult by using words strongly associated with the origins of the term Brayon (Rossignol 2001: 49-50):

Chorus: (SE): [...] Une chance qu'on est intact, nous autres, le cœur de l'Acadie! /
[...] We're lucky to be intact, the heart of Acadia!

Chorus: (NE) : Le cœur de l'Acadie? Mais c'est nous autres! / *The heart of
Acadia? But that's us!*

Chorus: (NW): Pis nous autres, les Brayons? On est le derrière de l'Acadie,
j'suppose? / *And us, we Brayon? What are we, the butt of Acadia?*

Chorus: (NE and SE): Des ployes! Des guenilles! / *Ployes! Old rags!*

To parallel this dismissal, it is worthwhile to note that when Keppie's research participants were questioned about a possible Acadian capital, there was not a single mention of there being one in the North-West, not even by North-West participants themselves, despite almost 20% of participants from this region believing that Acadia actually has a capital (**Figure 3**).⁸ Only Caraquet and Moncton were identified in the data, and as **Figure 4** illustrates, Caraquet had overall more support with 44% of participants naming Caraquet as the Acadian capital.

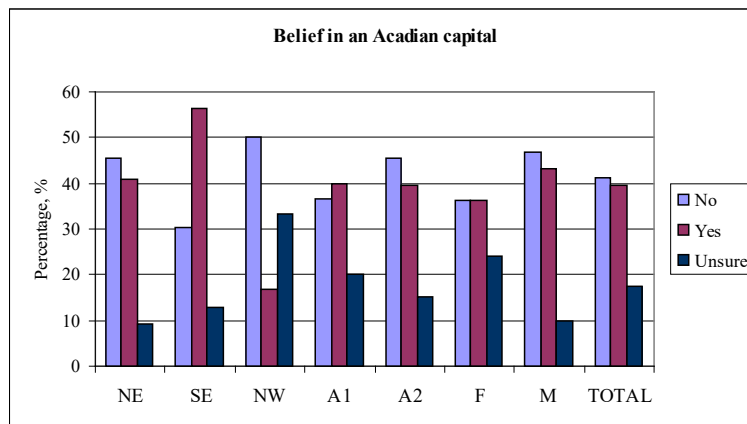


Figure 3. *Belief in an Acadian capital among New Brunswick French-speakers (Keppie 2012)*

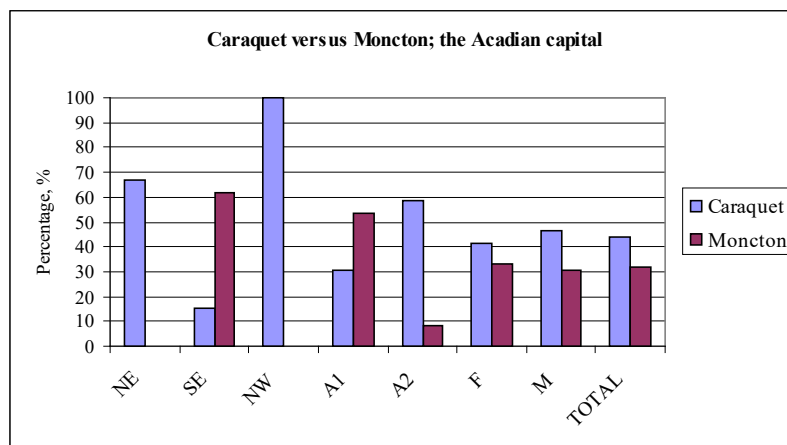


Figure 4. *Caraquet and Moncton as identified Acadian capitals by New Brunswick French-speakers (Keppie 2012)*

The issue of whether or not an Acadian capital exists clearly remained within the eastern regions. Thus, reflecting this ethnographic study, Rossignol has the North-East and South-East keep their western chorus member at arm's length, despite their shared Acadian membership. The north-western *acadianité* may not be deemed as strong as the eastern *acadianité* and interactions that cause chorus splintering continuously brings the reader back to the tangled North-West lineage. The eastern regions even suggest they have a much easier time tracking down their ancestors when

⁸ The codes A1, A2, F, and M represent (respectively) the younger age group of the study's informants, the older age group, women, and men.

they travel to France and are more warmly received because of their more linear genealogy. In fact, it is only when the chorus is directly questioned by the other characters that the eastern regions declare the North-West as having Acadian membership, which they usually follow up with a light insult or blame for the confusion that constantly surrounds establishing a collective meaning of *acadianité*.

3. PAUL'S ACADIAS. Regardless of the constant (friendly) squabble and discussion on what it means to be an Acadian in *Le pique-nique*, each region strives, and succeeds, to hold its own place within the Acadian collective through an ensemble of quid pro quos, fears, and aspirations:

Dans un contexte aussi dynamique, il n'est pas surprenant que chaque région se livre à une compétition féroce pour affirmer son identité, son authenticité, son historicité, son importance, sa préséance, ses ployes, ses poutines, et ses morues. Même si, pour réussir cet exploit, il faut se résigner à sortir les gros canons, les gros mots, et se livrer au déni de l'autre. (Rossignol 2001: xii-xiii)⁹

It is again important to note that in the forward of *le Pique-nique*, the reader is reminded that the play is meant to pique one's curiosity; it was not intended to answer questions and the role of the Chorus and its members are central to this intent. However, the character Paul (the third major character meant to represent not only the author himself, but any audience member or reader who may not be familiar with the New Brunswick Acadian regional dynamic) remains confused by all this diversity and perceived lack of coherence within the chorus. If one is unprepared or unwilling to accept the globalizing ideological movement, Acadia instantly becomes a very complicated and seemingly disjointed concept and community. Paul, in fact, echoes an opinion put forth by Belzile (2000: 20) in which she states that the three regions do not communicate as efficiently or as freely between themselves as they could. In *Le pique-nique*, Paul sees three distinct Acadias, and suggests that the Chorus come to some form of agreement:

Paul: C'est drôle, moé j'en vois trois. Pis vous êtes supposés avoir un pays, pis moé j'en vois pas. J'vois inque des frontières. Vous asseyez de nous dire quissé qu'on est, pis oussé qu'on est, pis quand, pis comment, pis pourquoi, pis vous savez même pas quissé que vous êtes, pis comment c'que vous êtes, pis oussé que vous êtes,

⁹Translation: "In such a dynamic context, it comes as no surprise that each region gives in to a fierce competition to affirm its identity, its authenticity, its history, its importance, its precedence, its ployes, its poutines, and its cod. Even if in order to succeed in this exploit, one must resign to pulling out the big guns, the vulgarity, and the denial of the other."

pis oussé que vous allez... Au lieu d'aller vous jumeler avec tous les villages de France, commencez donc par asseier de vous jumeler entre vous autres.

(Rossignol 2001: 53-54)¹⁰

Yet, in the throes of the globalizing ideological period, this is neither desired nor viewed as necessary, which is why the Chorus / New Brunswick Acadia co-exists through the continuous agreement to disagree. The Brayon-Acadian inclusion discussion is not one of ambiguity, but rather one that accurately represents the dynamics of a twenty-first century Acadia that encourages diverse shifting regional identities to properly serve their needs as a globalizing francophone minority within Canada's only officially bilingual province and whose cultural, economic, social, and educational rights need to be continuously protected by law. On the large scale, the Chorus is in complete agreement with one another and serves its role as a traditional Greek chorus to perfection, particularly in their answers to Durham's question on the definition of an Acadian. ("What is an Acadian anyway? Someone who speaks French or someone who lives in Acadia?") They vocally agree that *acadianité* is not so simple a concept as to pinpoint it to one's language or by living in a certain region, as the meaning systems of both concepts could initially suggest. Regardless of regional distinctions seen in the play and in research, the Chorus rightfully and adamantly agrees to disagree in what being Acadian denotes: "Vous autres, on va arrêtez le show drette icitte si que vous commencez à nous sortir des plans simples de mêmes! Okay là! On se comprend pas, pis on comprend ça!" (Rossignol 2001: 38).¹¹

Finally, it should be noted that this question of identity and regional membership will no doubt resurface in debate during and following the 2014 World Acadian Congress, to be held in August in the region referred to as *Acadia of the Lands and Forests*, which encompasses Témiscouata, Québec, northwestern New Brunswick and northern Aroostook County, Maine.¹² Their chosen slogan, *Acadia of the World...A new Acadia*, embraces the globalizing movement by describing Acadia as "comprehensive, inclusive, bonding, embracing, sophisticated, and international".¹³ How the New Brunswick North-West / the Brayon identify as Acadian following the congress will no doubt be the focus of much research and discussion. It is entirely possible that perceptions of what Acadia means and what it means to be Acadia will begin to shift so that the globalizing movement is representative of the northern French-speaking regions of New Brunswick as well. At that point, *Le pique-nique* will no longer be a mirror of Acadian identity in French New Brunswick.

¹⁰ Translation: "Paul: It's funny, for I see three of you. And you're supposed to have a country but I don't see one. I only see dividers. You try to tell us who we are, and where we are, and when, and how, and why, and you don't even know who you are, or what you are, or where you are, or where you are going... Instead of teaming up with all the villages in France, start by trying to team up among yourselves."

¹¹ Translation: You guys, we will stop the show right here right now if you start pulling out stuff as simple as that. Okay then! We don't understand each other, but we understand that!

¹² <http://www.cma2014.com/en/a-propos-de-nous/carte-de-la-region>

¹³ <http://www.cma2014.com/en/a-propos-de-nous/mission-et-vision>

REFERENCES

- COUTURIER, JACQUES PAUL. 2002. La République du Madawaska et l'Acadie. *Revue d'histoire de l'Amérique française* 56(2): 153-184.
- BELZILE, NADINE. 2000. Solitudes acadiennes: l'étude de l'identité brayonne basée sur une analyse du courant culturel circulant au Madawaska dans la presse locale entre 1960 et 1999. Masters Thesis (Université Laval). Ottawa : Canadian National Archives.
- HELLER, MONICA AND NORMAND LABRIE. 2003. Langue, pouvoir et identité: une étude de cas, une approche théorique, une méthodologie. Heller and Labrie (eds.), *Discours et identités, la francité canadienne entre modernité et mondialisation*. Cortil-Wodon: E.M.E., pp. 9-40.
- KEPPIE, CHRISTINA. 2013a. Meaning Systems of Two Identity Concepts: Acadie versus Acadien. *American Review of Canadian Studies* 43(3):315-333.
- . 2013b. L'Acadie Communautaire: Today's Acadian Linguistic Community. *International Journal of Community Diversity* 12(3): 55-63.
- . 2012. *Tradition or Empowerment? The Battle of the Acadian Capital(s)* in Vesna Lopičić and MIŠIĆ ILIĆ (EDS.), *Challenging Change: Literary and Linguistic Responses*. Newcastle: Cambridge Scholars Publishing, pp. 83-92.
- . 2011. Understanding the meaning of Acadie. *Journal of Canadian Studies* 45(1): 200-227.
- . 2009. L'Acadie communautaire: The Inclusion and Exclusion of New Brunswick Francophones. Doctoral Thesis (University of Alberta). Ottawa: Canadian National Archives.
- PERROT, MARIE-EVE. 2003. *Le français acadien en contact avec l'anglais: analyse de situations distinctes* in André Magord (ed.), *L'Acadie plurielle*. Moncton: CEA, pp. 267-279.
- ROSSIGNOL, RINO MORIN. 2001. *Le pique-nique*. Moncton: Editions Perce-Neige.

This article was first published at lacus.weebly.com.





GHETTO AND CHIASSO

J. P. MAHER

Northeastern Illinois University

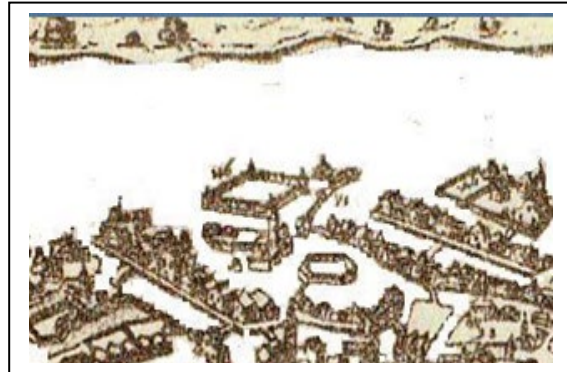
Abstract: The contemporary usage of *ghetto* is almost exclusively with reference to urban black communities. But the word has a long history and a full development of its etymology and linguistic implications leads back to Classical times. The present article debunks the conclusions of earlier studies and provides a full treatment of its own. A parallel development of Italian *chiasso* is also provided, showing that the history of *ghetto* is by no means unique.

Key words: ghetto, borgo, borghetto, etymology, semantic diversity, Jewish history

Languages: Italian, Venetian, Yiddish, German.



Figure 1. *Barbari, 1500*



Zaltieri 1565¹

IN THE 1890s the press was reporting about the Catholic ghetto in Belfast and the Chinese ghetto in San Francisco. In the 1980s I searched US newspapers and magazines for references to “the ghetto”. Not a single reference to Venice came up. Jibes at intellectual ghettos at M.I.T. and Harvard, or the Gay Ghetto *etc.* pop up (Marty 1981). The Black inner city in the USA has become the focus. Typical comments on the internet since the 1990s are:

¹ Barbari worked with surveyors over several years to compose his panorama (1500). Although the Zaltieri map (1565), showing a hexagonal fort, was published later than Barbari’s view, the image, if accurate, appears to be from an earlier source. Venice, by Bolognino Zaltieri, 1565.jpg

If your VCR hood latch pops up like ‘BOOM!’ it’s ghetto.

Kinda looks gheto but works.

Ghetto ...that which is not highly cultured or regarded is said to be ghetto. Anything not pop culture can also be said as ghetto. This is not necessarily an insult ...

1. ANACHRONISM. Figures of speech linger on from times far earlier than the sequestration of Jews in Venice in 1516. There’s no Jewish allusion in the first case: To spare non-smokers, a tobacco fiend steps out of her train compartment to catch a smoke in the designated area:

Un po’ ghetto, ma meglio di nulla ‘a bit slummy, but better than nothing’.²

More of the same:

Sà un pò di ‘ghetto’ con rispetto parlando ‘smells a bit fishy, if you’ll pardon my language.’

Ghemo ghetto ‘a fine mess we’re in!’ –literally ‘we have ghetto’.

Che gheto per le strade – ‘what a traffic jam!’

A teacher from Val Camonica in Lombardy shushes unruly kids: *che ghèt gh’è-l ché!* ‘knock off the racket’. A woman complains in Dalmatian Venetian dialect *Xe un gheto in sta casa che me vergogno se ven qualche forestiere* ‘there’s prostitution (a whorehouse) in this building; ‘I’m so ashamed when some strange guy shows up.’³

These figurative values of *ghetto* go back to before the segregation of the Jews in 1516. *Ghetto*, word and thing, had its history before 1516, being used for centuries before the sequestration of the Jews, and it was employed not only in Venice, but well beyond. The result is a confusing mix of the earlier and the later values, a palimpsest. The Jewish aspect has eclipsed earlier values, but they are still there, in the penumbra. The value of “pre-ghetto *ghetto*” in old texts and in modern circulation is clarified by Prati (1951):

Ghetto in più luoghi è nome di luogo con case piccole, misere, sudice.

‘Ghetto in many localities is the name for places where houses are little, poor and dirty.’

Before 1516 *ghetto* was, and remains, the common word for a suburb or a neighborhood outside a city center. In most countries *suburb* connotes a squalid slum at the city outskirts, not an upscale dormitory community. The neighborhoods ordained for Jewish segregation were slums. Australian-Irish Bishop Hynes wrote in his diary (Condon 2000):

December 12, 1852. Sunday. Visited S. Peter’s, S. Mary Major’s and S. John of Lateran. Found a number of French soldiers in the church, evidently in great admiration of the churches, their demeanour most edifying... In my rambles yesterday I passed through Ghetto

² www.alfemminile.com/forum/Actu1/_f8123_Actu1_Fumare_in_treno.html

³ Maria Schiavato e Graziella Srelz. 2004. www.istrianet.org/istria/literature/poetry/carpinteri-faraguna.htm;
<http://www.istrianet.org/istria/linguistics/istoveneto/piranese/dial-dl.htm>

and nothing could be more horrible than the appearance of the place, reeking with filth and noisome smell...

Mozart's librettist Lorenzo da Ponte was born in Ghetto di Ceneda, which was later combined with the neighboring Serravalle to form the patriotic city of Vittorio Veneto. Two hundred years before Jewish sequestration Cecco Angiolieri [1258 - ca.1312], Siena's "scamp poet," went slumming in search of horizontal refreshment:

*Ámor mi fa invogliar di sì gran ladre, ma
che par che siano figliuole di ghetto.*⁴

Cupid stirs in me the urge for these bad she-thieves;
so what, if they are just girls from *da 'hood*.

These girls are not Jewesses. The ancient locus has been misunderstood because of the eclipse of 1516. Here's an example of this conflict from our own time; the subject is the history of the carnival at CAP 41016 Novi (Modena):

... abitava nel "ghetto" (gruppo di case a sinistra, all'inizio di Via Gazzoli).
'...he lived in the 'ghetto' (a group of houses to the left, at the top of Gazzoli Street)...'
www.comune.novi.mo.it/news/carnevale.html 07.09.2009

The Jewish ghetto is not meant, as indicated by the quotation marks. A new resource in toponomastics dating from 1967 in America is the Zone Improvement Program, or ZIP code. It was initiated soon after in Britain as Post Code. In Italy the system is called *CAP Codice Avviamento Postale* 'postal delivery code'. This permits an easy search for localities by name. For example, within a radius of 5 miles from Rimini CAP 47900, there are the neighborhoods called *Ghetto Casale, Ghetto Masere, Ghetto Mavos, Ghetto Petini, Ghetto Piccinelli, Ghetto Randuzzi, Ghetto Tamagnino, Ghetto Tombanuova*.⁵

Several more places named *Ghetto* follow. The first on the list is only a few minutes, two stops by train from Venice.

31021 Ghetto di Mogliano Veneto TV (Treviso)
10070 Ghetto San Francesco al Campo TO (Torino)
35043 Ghetto Monselice PD (Padova)
41033 Ghetto Concordia sulla Secchia MO (Modena)
44100 Ghetto di Roncaglia P-U (Pesaro-Urbino)
44033 Ghetto Berra FE (Ferrara)
46024 Ghetto Moglia MN (Mantova)

⁴ The diacritic is needed to distinguish Latin *Ámor* 'Amor / Cupid' from Tuscan *amór[e]*.

⁵ The beautiful Rimini neighborhood of *Ghetto Turco*, a cluster of a half dozen houses, named for Giuseppe Melucci (1864-1947), who had worked as a builder in Turkey and was a decorated veteran of the war with Turkey in the early 1900s. People going there say 'see you at The Turk's *dal Turco*. Information kindly provided by the Director of Culture and Tourism, Tourism Section, Municipality of Rimini (Direzione Cultura e Turismo, Settore Turismo, Comune di Rimini, Piazzale Fellini 3, tel. 0541.704587 - fax 0541.54290. www.riminiturismo.it)

10040 Ghetto Rivalta di Torino TO
 31021 Ghetto di Mogliano Veneto TV (Treviso)
 61100 Ghetto Pesaro PU (Pesaro-Urbino)
 37060 Ghetto Sorgà VR (Verona)
 35037 Ghetto Teolo PD (Padova)
 61122 Ghetto Trebbiantico (Pesaro-Urbino)
 44030 Ghetto Ro F E (Ferrara)



Figure 2. CAP Codes and locations of Ghettos

Ghetto is common in nicknames, Dominic, *Domenico*, is *Meneghetto*, then *Ghetto*. A baby baptized for patron saint *Ugo* ‘Hugo’ could get a couple nicknames: *Ughetto* ‘Hughie’, then by aphesis *Ghetto*, which seems to have fallen out of favor since 1516. However, though, the Italian phone book lists 859 subscribers under the patronym *Ghetti* [‘son] of *Ghetto*, mostly in Romagna. There’s not one subscriber there with forename *Ghetto*, which however is conserved in the surname *DeGhetto* (DeFelice 1987, Uckelman 2009). The surname *DeGhetto* shows up 983 times in *Ancestry.com* lists.

Dictionary entries for *ghetto* ‘Jewish quarter’ seem never to have been reviewed by Italianists. Figurative, onomastic and toponomastic uses of the word are omitted, as well as literal usages of the word pre-1516 and not only in Venice. The lemma *ghetto* in Merriam Webster is glossed “Italian, from Venetian dialect *ghètto* island where Jews were forced to live, literally, foundry (located on the island), from *ghetàr* to cast, from Latin *jactare* to throw.”⁶ More cautiously, though

⁶ This is loaded with errors: *ghètto* should be *ghét*, with close E, *gètto* ‘cast’ has open E. *Ghetàr* < Tuscan *ghettare* is not ‘to cast’, but ‘to apply *ghetta* (lead oxide)’. The unrelated Tuscan verb *gettare* is a loanword from French *jeter*. If Venetian *ghetto* were from a Latin source beginning in the Roman letter (consonantal) < I >, say [j] (**iectare* < classical *iniectus* ‘injected’, followed by any vowel, the initial consonant would be [z]. Venetian spelling vacillates between < x > and < z > for this. Compare Latin < IOCANT > ‘they play’ and Venetian *xoga*, Tuscan *giocano*; Christian Latin *Iohannes*, Venetian *Zuan*, Tuscan *Giovanni*; Latin IVDAEI ~ *Iudaei*, Venetian *Xudei* ‘Jews’; [sc. *Insula*]

still not quite accurately, Oxford dictionaries gloss it "... perhaps from Italian *getto* 'foundry', because the first ghetto was established in 1516 on the site of a foundry in Venice, or from Italian *borghetto*, diminutive of *borgo* 'borough'."

The Jewish quarter of Venice was no more "the first ghetto" than sandwiches and picnics were first enjoyed in the 1600s and 1700s. The industry dictionaries commit the same anachronism as the novice on first hearing of the Sandwich Islands.

In Morocco, Idris II, son-in-law of Mohammed, built a wall by his palace to protect the Jewish merchants from murder at the hands of mujahedin. Dead Jews don't pay taxes.

The influential Cecil Roth first had first held to the *borghetto* origin, then opted for the foundry legend (1934: 58-76). His translation of *Ghetto Vecchio* as 'Old Foundry' is wild. *Calle Ghetto Vecchio* happens to be a street, now, but of course it originated as a man-made island where there had indeed once been furnaces.

2. WHAT DID THEY CALL IT BEFORE THEY CALLED IT "THE GHETTO"? My son Paul came home one day after a lesson about Copernicus. "Dad, I asked the teacher what they called it before they called it 'the solar system'?" Teacher couldn't answer, but promised to raise his mark if Paul could find the answer. When he asked me, I was stumped too at first, but I went to my mental card catalog to see what author wrote about it in flat-earth days. Aristotle. What was his subject? *Ouranós* 'the Heavens'.

They called it "the street", or sometimes it was 'the settlement or 'the houses'—the *shtetl Khyzhy* in the Ukraine was simply "the houses". After 1555 the Jewish quarter of Rome was sometimes referred to by the Talmudic term *ghet* 'writ of divorce' (DeBenedetti-Stow 1992). Sometimes the biblical word *migrash* was employed. Italians sometimes used the Turcism *serraglio*. In Hebrew the Jewish neighborhood is sometimes called 'street' – *m'sillah*.

In Catalonia, a papal letter A. D. 990 records a *Villa Judaica* "Jewish street or village", today's *Vilajuigau* (Warschawski 1977). In the 1100s the Jews of Strasbourg had their own quarter, living *in vico judaico* 'in the Jewish street' or *apud Judaeos* 'by the Jews'. Special Jewish streets were already recorded in Worms, Mainz, Cologne, Regensburg, Speyer, and other places (Max Weinreich 2008:176). Compulsory residence areas for Jews were ordered after the Lateran Council of 1215 *Afder yiddisher gas* is Yiddish for 'on the Street'. In Bavaro-Austrian it's *da Gassen* [back street]. In Laibach it was *Judengasse*: in Ljubljana there is Jew-Street *Židovska Ulica*. In Veneto-Serbian the Jewish quarter is also a "street": *Ulica Žudioska* in Dubrovnik. In Poland Jews lived "on their own Jewish Street" – *na swojej własnej żydowskiej ulicy*.

Italian words for "street" include *via*, *vico* and *vicolo*. In the 1600s the Jewish "quarter" of Verona was the *Via degli Ebrei*.⁷ In pre-Christian Latin VICVS designated a few houses strung along a road, VICVLVS the diminutive. In a TV documentary on the 1959 lynching of the boy Emmet Till in Mississippi, a relative of the victim told of getting off the train at "a little town: but it wasn't really a town," she said, "just a few houses along the road."

Up to the Emancipation the Jews of central and eastern Europe, Jews knew absolutely nothing

iudaica, Veneto *la Xueka* ~ *Zoega*, Tuscan *la Giudecca* in a Venetian accent is pronounced /yudeka/. Since Venetian reflects Latin /ge/ as [z], an inherited Latin word would show up in Tuscan with [dž] and in Venetian with /z/: cf. Tuscan *gesso* and Venetian *zesso*. By contrast, compare Tuscan *gentile* - *zentil*. ARGENTVM 'silver' Venetian *arxento*; GENVA ~ *genua* 'knees'; Tuscan *ginocchi* ~ *ginocchia*, Venetian *xenoece*.

⁷ Named for an ancient trattoria with stable at the sign of "The Hat". No connection to the Cappelletti ~ Capuleti. Few tourists of those who now flock to gaze on Juliet's balcony know that "her" house was once the hostelry.

of the Italian word *ghetto*, either in its derogatory or factual sense. The accepted name was the Jewish Street (in western Yiddish the Jews' street) and thus to this day the Yiddish expression on the Jews' street means 'among Jews'... We must not be deluded by the fact that the Germans in World War II used the term *ghetto* for those areas in which they herded the Jews before extermination (Max Weinreich 2008:177).

Ecclesiastical Latin did not employ the term *ghetto*, but the phrase "the Jewish Street" — *Vicus Iudaicus*. Pope Paul IV's Bull *Nimis absurdum* (1555) reads:

*... We command that from this day hence and for all future time, in Rome as well as in all other cities, lands and towns of the Roman Church, all Jews shall dwell in one and the same street, or if such proves impossible, in two or three contiguous streets, or as many as needed, clearly separated from habitations of the Christians, which [streets] shall be designated by Us in Rome and by Our magistrates in all other cities, lands and places of the Roman Church, and there will be only a single access and exit to these [streets].*⁸

Decreed or coincidental, voluntary, sheltering or malign, isolation of selected groups is usual in world commerce. Ghettos and ghettoization existed long before Jewish sequestration in Venice in 1516. Jews were not the only group sequestered. Dutch and English traders in Japan were confined to their own islands, as were the Portuguese off the coast of China, and so on.

The Italian word will have been introduced to European Jews in the nineteenth century with the "ghetto novels". Prague author Leopold Kompert (1848, 1860, 1865), when the word was ethnically neutral, *i.e.* any old street, used no brackets – *die Gasse* 'back street'. He uses quotation marks in *der »Gasse«* when he means "[Jew] street" (1860).

Rebb Eisik wohnte in dem schönsten Hause der ganzen »Gasse«; er galt allgemein als ein sehr reicher Mann.

Rabbi Eisik lived in the most beautiful house in the whole "street". He was considered a very rich man.

In England it was Israel Zangwill who popularized the term *ghetto*. Between 1600 and 1800, German and English travel writers are at pains to explain the new term *ghetto*. Thomas Coryat (1611:230): "The place where the whole fraternity of the Iews dwelleth together, which is called the Ghetto."⁹ At the top of the lists in England in 1756 was Johann Georg Keyssler's *Travels through Germany, Bohemia, Hungary, Switzerland, Italy, and Lorrain & cet.* There's a copy in

⁸ Sanctimus quod de cetero perpetuis futuris temporibus, tam in Urbe quam in quibus vis aliis ipsius Romanae Ecclesiae civitatibus, terris et locis, iudaei omnes in uno et eodem, ac si ille capax non fuerit, in duobus aut tribus vel tot quot satis sint, contiguus et ab habitationibus christianorum penitus seiunctis, per nos in Urbe et per magistratus nostros in aliis civitatibus, terris et locis praedictis designandis vicis, ad quos unicus tantum ingressus pateat, et quibus solum unicus exitus detur, omnino habitent." — Paul IV's cruelty afflicted Jews and Gentiles alike. On his death in 1559 the common people of Rome tore down symbols of the House of Caraffa, trashed the Inquisition headquarters and dragged the pope's statue from its place on the Capitoline Hill through the streets and plunked on its head a yellow cap such as he compelled the Jews to wear. (Extract from a 1961 publication [OP] of the Histadruth Hamorim (Italian Association of Jewish Teachers) following a seminar organized in 1959 at Vigo di Cadore). (http://www.morasha.it/ebrei_italia/ebrei_italia04.html)

⁹ Jonathan Swift's *Gulliver's Travels* (1726) was not only a satire on establishment corruption, but also a spoof on his very vehicle, travel literature. Another literary work inspired by travel books was Horace Walpole's *Three Princes of Serendip*, source of our *serendipity*.

Charles Darwin's library. Thomas Jefferson and John Wesley each owned a copy. The German first edition was published in Hanover in 1741. Goethe's father made a pastime of correcting Keyssler on the basis of ancient texts. Leopold Mozart and son used the guide book on travels in Italy: This best-selling author wrote:

A particular part of the city, noted for houses of ill-fame, was assigned by Cosmo I. to the Jews, for their particular quarter, or ghetto.

His apposition of the phrases "their particular quarter" and "the ghetto" indicates that Keyssler is introducing something new. But is he writing here about Venice? No. "Cosmo" is Cosimo de Medici, so Keyssler is in Florence. In his Venice rambles [1725-1740], although his interest in place names is keen, Keyssler does not use the term *Ghetto*. He tells us that the Jews were moved from the big breezy Giudecca in the lagoon to a cramped little land fill. Earlier yet John Evelyn [1629–1706], friend of Samuel Pepys, entered in his own diary for 15 January 1645.

I went to the Ghetto, where the Jews dwell as in a suburbs by themselves.¹⁰ Being invited by a Jew of my acquaintance to see a Circumcision: here I passed by the Piazza Judea (where their Serraglio begins) for being invironed with wales [walls], they are lock'd up every night...¹¹

Is Evelyn writing here about Venice? No. He's in Rome.¹²

Before 1516 Jews lived at times freely throughout the city. Armenians enjoyed the freedom of the city. Many foreigners lived and did business in Venice –Tuscans from the city states of Florence, Siena, Lucca, and Pisa and Lombards from Milan. All, and not only Jews, were confined to their proper tract, a *fondaco*, *i.e.*, a multi-purpose structure, of wharf, warehouse, market and residence. The Germans had their *Fondaco dei Tedeschi*. They were not locked in. Living free, too, were the Syrians (Melkite and Maronite Arab Christians). Muslim Arabs lived in the *Fondaco dei Mori* 'Moors' (such as Othello). Ottoman subjects, all called "Turks", whatever the nationality or language, were confined in the *Fondaco dei Turchi*, which changed location more than once. Like the Jewish zone, the Turkish quarter was locked at night and its entrance manned by armed guards.

But it must not be forgotten that these Turks, so useful from a commercial point of view, were infidels, therefore the windows of their *fondaco* were ordered to be walled up; the rooms were lighted from an interior patio; an enclosing wall was erected, the two corner turrets, which

¹⁰ A *suburbs* is no error, but is "corrected" by harmful drudges removing the -s. Our form *suburb* results from a misunderstanding: *urbs* in Latin is a singular; the last letter is not for the English plural. Cf. *Chinee* for *Chinese* etc. *Suburb* in 20th century USA connotes "upscale, rich". Not so in the old countries, a suburbs was out in the sticks, live in a slum. So it was in the US ca. 1900, before railroads and, later, "superhighways" made "dormitory suburbs" possible.

¹¹ Being locked in at night sounds cruel nowadays, when civic order and public security is considered normal, but in the past nobody in his right mind went out of door without a small army of retainers. The towers of San Gimignano, and this is only one example out of thousands, attest this fact. The houses of the rich were fortresses. At Milan a redlight district was also walled in, an early "gated community", which came to be known as 'Little Castle Close'—il Castelletto (*clauxura casteleti*). It had one entry, to be locked shut during the night by a guard elected and paid by the prostitutes. This "closed house" was declared *locum publicum*, *i.e.* under the control of the municipal authority. (http://www.storiadimilano.it/citta/Porta_Orientale/prostitute.htm)

¹² It's a foreigner's mistake to refer to "the Ghetto", with article. Bishop Hynes had it right in 1852, and that's how you'll find it, too, in travel tips written today by real Romans.

might serve for defence, were razed, and a Catholic warder was stationed there who shut the doors at sunset. Women and children were forbidden to cross the threshold, arms and powder were deposited in a safe place in front of the entrance; and finally, to complete this series of prohibitions, it was forbidden to lodge an Ottoman in the city' (Yriarte, in Singleton 1905/1911: 104-112).

In Istanbul Christians were shut up in a district separate from Muslims. Franciscan Friar Paolo di Rovigno (1638) described Turkish Sarajevo: "Christians live in a separate quarter from Turks and are confined like the Jews in the Ghetto of Venice" (Blažević 1917: 9).¹³

Seldom noticed is that there was no church on Ghetto Nuovo to deconsecrate, which made the segregation easier. The nearest one is just across the rio, San Girolamo (Saint Jerome), which stands on the place of a preceding edifice built by the Jesuits in 1491.

The foundry story? ¹⁴ Hazlitt, a secondary source, is right on chronology, wrong on translation (1915:II.347):

Whatever its exact antiquity may have been, the Projectile and Weapon Foundry, the smelting furnace first occurs to notice as seated in the suburban district of Cannaregio, and formed a walled enclosure throughout the Middle Ages, like the Arsenal and the Place of Saint Mark. It was known as the [sic] Ghetto and became the Jews' Quarter somewhat later. When the Ghetto Nuovo, originally a swamp contiguous to the Rio di San Girolamo, was drained and colonized, this (earlier site) became the Ghetto Vecchio. In a document of 1458, the name Ghetto, a Venetian corruption of the Low Latin *jactare*, seems to be satisfactorily explained. It was "the casting depôt". It was called the Ghetto, we are explicitly informed, because there were our twelve furnaces and the iron was founded and smelted here.¹⁵

Indeed, there had been foundries working in the place called *Gheto* in 1306: *fiebant bombarde dominationis* 'siege guns used to be made there' (Toaff 1965:71-72). Which does not say the place is called *gheto* because it was a foundry, but that the place called *Gheto* was the location of the foundry.¹⁶ The foundry misreading appears already in a letter patent of 28 May 1749 submitted to the Doge (Zille 1985). Under discussion was the right of Jewish money-lenders to conduct business as well as the settlement of the Jews in *Ghetto*. The minutes read:

... furono loro assegnati la corte e case del Gheto, luogo così chiamato dal gettarsi in esso e lavorarsi il rame, il qual luogo ritiene anco in oggi la denominazione di Ghetto.

... assigned to them [the Jews] were the courtyard and houses of the Gheto, so called from

¹³ Li Christiani stanno in una contrada separata da Turchi, e si chiudono, comme fano [sic] li Ebrei nel Gheto di Venezia. Since the war of 1992ff. the terms Bosnian and Bosniac have been narrowed to refer to Bosnian Muslims.

¹⁴ OED I. *Encyclopedia Judaica* (1972), the *Encyclopædia Britannica*, the *Oxford English Dictionary*. Merriam Webster et al., copy the same source. Umberto Cassuto (Moshe David) authored the entry in *EJ* and *Enciclopedia Italiana*. The electronic website Chabad-Venice is one of many sources that misinform the reader-tourist that the Venetian ghetto is a site where there had been *getti*, supposedly meaning 'foundries'.

¹⁵ Bronze, not iron (Read 1934).

¹⁶ The electronic website Chabad-Venice is one of many sources that misinform the reader-tourist that the Venetian *ghetto* is a site where there had been *getti*, or foundries. Chabad Online 1000.

<http://www.jewishvenice.org/chabad/ghettohistory.html>

casting and working copper, and this place still today retains the denomination of Ghetto”.

This foundry was on the island called Gheto ~ Ghetto. Ghetto Nuovo did not yet exist. On a 12th century map the region where the island *Gheto* was later created was still a swamp, as is clear from the name of the sestiere, *Canna-regio*, a wetland. *Canna* means ‘reed’. So it remained until 1400 ca. (Temanza 1781). Over the years slag from the furnaces was dumped in the swamp north of *Gheto*. This created an island which was dubbed New Ghetto. Consequently *Gheto* was retro-named *Ghetto Vecchio* – Old Ghetto. By 1516, the foundries were cold and long gone.

The foundry tale was rejected by Klatzkin (1932) and had been demolished in 1904 by Emilio Teza (1904). He published minutes of a deposition held on Thursday 14 March 1458 of one Guasparinus da Lon [Gasparino De Lon] that touches on the uncertain etymology of *Gheto* ~ *Ghetto*. This was fifty-seven years before the Great Council ordered the Jews of the city to settle there. The witness began with compound hearsay and then changed his story to a folk etymology; confused by the ambivalence of old spellings, he continues:

...this witness understands and believes that others opined that the island was so-called because slag was cast from the getto.)¹⁷:

...on being interrogated, [the witness] replied that he remembers having seen the place “del getto” [of the ghetto] and this place was called ‘el geto’ because there were furnaces there and bronze was cast and smelted there...¹⁸

Teza wrote:

It is not possible to connect the word ghet(t)o with gettare ... as some have attempted to do by pretending that it [getto] was a foundry. The name gheto is ancient and of unknown origin. The place was long so known when workers came there who smelted and cast metals. Without changing the form of the word, Venetians came to fancy a connection between the words [ghetto and getto], but when it became the name of the walled Jewish quarter, there was no indication of the change of inhabitants [from Christian to Jew]. And there was no question of Christians inventing the word out of scorn for the new people, nor was the term of Jewish origin. The word [ghetto] is the shadow of a shadow.¹⁹

3. <GH> AND <G>. Ambivalence of the letter G in early Italian spelling: you find “hard G” as in English *forget* and “soft G,” as in English *foraged*. You have to know the language by ear before you can read the text. Serge Vanvolsem alerted me to the polymath Leon Battista Alberti [1404-1472], who treated the problem of writing and reading *getto* and *ghetto* with humor à la Lewis Carroll (Colombo 1962: 176-87; Grayson 1964). Alberti’s *Grammatichetta* features a riddle in the

¹⁷ ipse testis intelligit et credit quod ab aliis tenebatur q[uod] sit dicta insula ex eo quia proiciebantur immunditiae del getto.

¹⁸ Interrogatus respondit se recordare iudisse locum del getto qui locus i[m]o uocabatur elgeto quia erant ibi ultra duodecim fornaces et ibi fundebatur et purgabatur es. The metal concerned was not iron, but copper [rame] or bronze. In classical Latin the word for this would have been written AES; in the 15th century, it is written *es*, not normalized to *aes*. Bronze cannon were preferred; iron gun barrels were prone to shattering, given the impurities of iron in those days, were more dangerous to the gunner than to the target. (Teza 1904:1281)

¹⁹ ... Il nome gheto è antico, e di ignoto significato; più tardi vi sono operai che fondono, che gettano metalli; e senza mutare forma all parola, i veneziani scoprono un legame di idee; ma, quando diventa nome della cittadella ebraica, nulla ha a vedere coi mutati abitatori; e come non fu inventato da cristiani per iscorno alla gente nuova così da questa non nacque: ed è l’ombra di un ombra.

spelling *el giro giro*. Readers needed to have heard and spoken the words to solve it, as with *tortoise* and *taught us*. Modern spelling obliterates the fun, though it achieves phonetic accuracy by writing *il ghiro girò* – ‘the dormouse turned his back on his uncle’: *el giro giro al çio el zembo*.²⁰ Modern orthography would have: *il ghiro girò allo zio il gobbo*.²¹

4. GHETTO BORGHETTO BORGO. These words are of Germanic origin, from immigrants flooding into the crumbling Western Empire. No Italian word beginning in *ghe-* is from Latin.

The dictionary of the Accademia della Crusca explains the ambivalent words *borgo* and *strada*: *Oggi nome di strada, così detta, perchè fu borgo* ‘we call a street “borgo” today because a [city] street [strada] was once a [country] borgo’.²² ‘The Medieval city always had, around the castle, the localities called *borgo*, a sequence of houses placed along the roads that lie outside the gates of the walled city’ (*Dizionario Enciclopedico Italiano*).²³

4.1. *Borgo, Borghetto, ghetto*. North of Rome, a place known since the 1300s as *Borghetto*, was treated to a make-over in the mid-1600s to the finer Borgo Velino. Despite the upgrade, the natives still call themselves *borghettani* ‘Borghetto people’ (Falling Rain Genomics 1996). From the Napoleonic wars comes the text: “... (2 febbraio 1799) ... fin sotto le mura del borgo (il Ghetto)...” ‘up to the walls of the borgo (il Ghetto). Roth (1934:68) Citizens of Civitavecchia, today Christians, called *ghettaroli*, ‘ghetto people’.

<www.youtube.com/watch?v=FM9MPVZQfNQ ->

4.2. *Ghetto* IN THE ALPS. On a hazy day in Venice tourists don’t see the Alps on the horizon, but on a clear day the mountains loom majestic. In an hour’s drive or so from Venice you climb to 2000 meters above sea level and haze and find yourself in the crags of the Dolomites. Here a village is a string of houses along a road, hemmed in by steep walls of stone. German and Ladin are spoken here, often under the same roof and in the same conjugal bed. In Ladin

... el ghetun is a part of a village, where the houses are built tight up against each other; there is in every village, insofar as the word occurs, a particular part that bears this name,’ (Lardschneider-Ciampac (1933:12).²⁴

²⁰ Genua slang *zembo* ‘hump, hunchback’ names a pastry, LinkedIn subscribers include 52 people with the surname *Zembo*.

²¹ Bartoli (1932: 146) wrestled with the vexing morphophonology of *conghiettura* ‘conjecture’. He wrongly thought this was a development of Vulgar Latin /j / > /g /. Rather, the matter is clarified with an insight, surprisingly, from Cuban phonetics, where Spanish *bien* is [bien]; in Cuban-accented English, *handsome* is [haŋksom]. We see the same in Venetian. In the negative particle *non* the final nasal is not dental, but velar. Compare Italian *non hò* [non ò]. ‘I haven’t’ and Veneto {*noN+o*} [nongò], which has been re-segmented as {*nong+go*} *noŋ gò*. – For discussion of such suppletion, see Nicholson 1992, Aski 1995, and Maiden 1995 and 1996.

²² The German verb *bergen* means ‘to harbor, shelter, hide, conceal, rescue, salvage’; Gothic *baurgs* [borgs] is ‘city’ for the Byzantine period; German *Burg* is ‘castle, fort’ A place of flight in time of danger, with urban sprawl a borgo will become a street within a walled city, ethnic groups having, by chance, choice, or edict, their own streets.

²³ *La città medievale aveva sempre, attorno al castello, dei borghi, una sequenza di case poste lungo le strade che uscivano dalle porte della città murata.*

²⁴ *Dorfteil, wo die Häuser nahe beisammen gebaut sind; es ist im jedem Dorfe, soweit das Wort vorkommt, ein bestimmter Teil, der diesen Namen trägt.* The augmentative *un-* = Tuscan *-one*, not only reinforces an affective meaning, but avoids reducing the word *ghetto* to a monosyllable. The same is the case in Dubrovnik’s main street, *Stradun* = Tuscan *stradone*.

Narrow Alpine valley or tight little island in the lagoon, the engineering problem is the same: you have to build vertical and tight together. “Here the Jews had to live in the tightest space and fit their synagogues right into the private houses (Hellmann 1981:168).”²⁵

Champollion’s decipherment of the Rosetta Stone shows the way to clarify the meaning of *ghetto*. By matching the letters of the Greek royal names *Ptolemaios* and *Cleopatra* to two logograms in cartouches on the hieroglyphic texts, previously unreadable, he broke the code. Just so, let’s accordingly juxtapose the primary texts from Venice (1516) and Rome (1555) relating to the sequestration of Jews.

Whereas the pope and his amanuenses wrote in Latin, Diarist Marin Sanudo wrote in Venetian.

Bisognerà mandarli tutti a stare in Geto Novo, ch'è come un castello; e far ponti levadori et serar di muro; havino solo una porta la qual etiam la serano e stagino lì.

It will be necessary to send them [the Jews] to live in New Ghetto, which is like a castle; and [it will be necessary] to make draw bridges and shut [them] in with a wall, [so that] they have only one gate, which will be locked, [and that’s where] they must live.

Champollion’s method is equivalent to Ferguson’s in *Diglossia* (1959). For example, in Greek restaurants the menu and the labels on the bottle say ΟΙΝΟΣ [inos] ‘wine’, but the diner and waiter say ΚΡΑΣΙ / *krasi*. Latin *vicus* and Romanized Germanic *borgo borghetto* and *ghetto* have the same function in their respective documents. GETO ~ GHETTO in the Doge’s laws is the same as that of *vicus* in the pope’s Latin, the zone where Jews have to settle – “the street”.

Latin *Vicus Iudaicus* “Jewish Street”. Pope Paul IV’s Bull *Nimis absurdum* (1555):

We command that from this day hence and for all future time, in Rome as well as in all other cities, lands and towns of the Roman Church all Jews shall dwell in one and the same street, or if such proves impossible, in two or three contiguous streets, or as many as needed, clearly separated from habitations of the Christians, which [streets] shall be designated by Us in Rome and by Our magistrates in all other cities, lands and places of the Roman Church, and there will be only a single access and exit to these [streets].²⁶

Theodore Lyman (1821) adds:

Paul IV confined the Jews to a quarter of Rome, on the left bank of the Tyber, near the theatre of Marcellus, where they still live; this quarter is called Ghetto.* It is separated by walls and five gates from the other parts of the city; every night, about an hour after sunset, these gates are shut by the guard of the city, and not opened again till next morning at sunrise.

In a second papal bull *Dudum a felicis* (‘It’s about time’), the vernacular name of Rome’s slum street *Ghetto* appears, though in mock Latin spelling: *ghectus*, just as scribes wrote the Italian word

²⁵ *Hier mußten die Juden auf engstem Raum leben und ihre Synagogen in die Privathäuser einfügen.*

²⁶ Sanctimus quod de cetero perpetuis futuris temporibus, tam in Urbe quam in quibusvis aliis ipsius Romanae Ecclesiae civitatibus, terris et locis, iudaei omnes in uno et eodem, ac si ille capax non fuerit, in duobus aut tribus vel tot quot satis sint, contiguus et ab habitationibus christianorum penitus seiunctis, per nos in Urbe et per magistratus nostros in aliis civitatibus, terris et locis praedictis designandis vicis, ad quos unicus tantum ingressus pateat, et quibus solum unicus exitus detur, omnino habitent.

tutti ‘all’ as *tucti*, *Matteo* as *Macthaeo*, *quattro* ‘4’ as *quattro*.

5. SEMANTICS OF “THE STREET”.

www.unesco.org/most/p2tresoreng.pdf



Figure 3. On the road between Como Italy and Switzerland: CAP 22100 Chiasso.

CHIASSO
inspired design for the home.®

A Chicago store. <http://www.chiasso.com/about/>
chiasso (key-Ah-so), an Italian word meaning
‘to cause an uproar or sensation’. <http://www.chiasso.com/about/>

Chiasso is a word with kaleidoscopic polysemy such that even good scholars have been unable to account for its semantic spread or to ascertain the source word, much less language. Some have looked fecklessly to German *Gasse*. Glosses of *chiasso*, like *ghetto*, include street, prostitution, political corruption, disorder, crime ... The Street is where things happen, from a pleasant stroll to being mugged.

Bambini, non fate chiasso ‘cut out the noise, kids!’. *Andare in chiasso* means to ‘go to the whorehouse’. To be of shameful reputation is ‘have relatives in the slum – *avere parenti in chiasso*. The street is a place without privacy: *con trentamila ducati la si può tórre in chiasso* – ‘for 30 thousand ducats she’d let you strip her naked in the street.’ ‘To preach chastity in the street’ is – *predicare la castità in chiasso*. To get off the main road and beat a retreat through dark back alleys is *darla pe’ [per] chiassi*. Even in non-obscene, even devout speech *chiasso* is a bordello. A Siena parish registered the death on 8 January 1709 of a poor prostitute: the curate administered the last rites to Togna da Montepulciano, admonishing her to “depart from sin and *chiasso*”. The girls seldom lived past the age of thirty. Togna, *donna di partito ...morse in Salicotto sotto li Ebrei...* [1613] ‘she died in Salicotto downhill from the Jews – *sotto li Ebrei*. <http://www.sienaquietvilla.net/meretrici.htm>

Fanning out around, about and below any fort: borgo, castello, little streets, alleys, the *chiassi* fan out. In Florence the ghetto was dubbed *il Chiassi de’ Giudei* ‘Jewish Street’.²⁷ Unclear to most

²⁷ The Florence ghetto was also referred to as *Isola del Ghetto*, which Google might translate as ‘island’, but the

people is the relation between this and the secular meaning ‘noise’. In Mantua Via Chiassi is a street named for Giovanni Chiassi, hero of 1848 and the Risorgimento.

The phonology is easier than the semantic kaleidoscope:²⁸

Latin *clamo* < Italian *chiamo* ‘I call’

Latin *clamat* < Italian *chiama* ‘calls’

Latin *classis* < Italian *chiassi* ‘street’ etc.

At first blush a seeming plural, Italian *chiassi* needs a singular, and a regular one is fitted out on the model or analogy of *libro libri* ‘book(s)’.²⁹

In Siena the word appears in the street names:

il Chiassi delle Monache ‘Nuns Lane’

il Chiassi alla Macinaia ‘Millers Lane’

il Chiassi dei Buoi ‘Oxen Lane’...

To Dante and Boccaccio the Adriatic city near Ravenna that is now called *San Apollinare in Classe* was *San Apollinare in Chiassi*. Plate tectonics have lifted the mainland so that the Portus Classis ‘port, harbor of the fleet’ is now a mile inland. Sound Laws in language are like tectonic plates; they modify or even destroy old order, but order is restored by new forms formed on the analogy of available variants. Schoolboys reading Caesar’s *Gallic War* learnt that the word for ‘fleet’ was *classis*, but this omits the non-military world; *classis* is a street and its inhabitants, who have characteristic crafts, callings, skills, religion or other character, in a word, a class. Florence has a *Chiasso del Buco* ‘Hole Alley’, described in tour-guide prose as “a cute little walking lane accessed through an ancient arch...” and “an enchanting little alley”. Today the chiassi are paved, cleaned up, pretty and boutiquefied. Once they were as Bishop Hynes described, filthy and stinking.

Tor di Nona = Torre di Nona. Bells hang high over the Tower of Annona, and dungeons lie deep beneath. There Benvenuto Cellini was tortured and in the courtyard Giordano Bruno was burnt at the stake. Bell ringers pull their ropes: *trarre* + *corda*. Below, the Torturers pull theirs to break men on the rack. The polysemy of *chiasso*, as well as *tratto* ‘pulling’, is grist for the mill of satirist Pietro Aretino in the play *La Cortigiana* (1525). I take the liberty to re-word the text of Pirrotta and Povoledo (2008:330):

[T]he painter and wit Andrea leads the stupid Siennese Maco on a tour of Rome:

Andrea: let’s go see Campo Santo and Saint Peter’s and the Nona Tower.

Maco: Do they ring vespers at Torre di Nona?

Andrea: Oh, yes, there’s a lot of rope-pulling there.

... And then we’ll stroll through all the chiassi of Rome.(back streets)

Maco: Do they have chiasso (sin, prostitution, political corruption) all over Rome?

Andrea: It’s all over Italy.

Postscript. In the semantics of Chomsky and followers meaning is calculated as the sum total of

Florence ghetto is no island. Visitors to Pompeii and Ostia Antica see that *insula* “island” means the same thing as urban American *block*, British ‘[housing] estate’, Austria’s *Siedlung*.

²⁸ Words acquire meaning in contexts. Seeking an etymon with the seminal meaning can hit a dead end. The concepts of deep structure or content and form are invalid. Underspecified units undergo semantic investiture in syntax (Langhoff 1977, Slagle 1974).

²⁹ Internal analogy (Anttila 1992), internal borrowing (Hall 1960).

all the phrase structure rules, transformations and lexical insertions used in generating a sentence. Such polysemy operates in both *chiasso* and *gheto*. Both words are underspecified; values are added in situ beyond those that were transmitted and received.

The hearer always has his own personal and sociological background and always receives a signal embedded in the here and now of his experience, which he shares with his interlocutor in many senses, even if not in all regards. The “missing meaning” cannot be treated as being explicit in some kind of deep-structure with the context only disambiguating and ruling out. The ***full meaning is not there in deep-structure.*** (Langhoff 1980:182; see also Slagle 1974 *passim*.)

The same semantic kaleidoscope operates in Arabic (Lévy 1992; UNESCO):

... *hâra* and Cairo Arabic *darb*... both signify at one and the same time or alternatively an ethnic neighborhood and the street where the ‘people of the street’ live.³⁰

6. GIUDECCA. Besides *ghetto* and *chiasso*, another word important to Jewish history is the name of the island (really a string of islands) across the lagoon from St Mark’s. The semantic field, again, is more a kaleidoscope than J. R. Firth’s prism that refracts white light into a band of colors (1957):

... the Jews, who once lived in the region of the island Giudeca or Zueca, which is named after them, are now isolated in a special quarter by Cana Regio.” (Keyssler).

The name appears in Istria in the form *Zudeca*. A striking fact and problem was published by Filippi et al.(2009): tanneries are called *zuega* in the Veneto: *e.g.*, *zuèc*, *zueccam*, *zuecchi* vel sim. They ask if this is the base meaning ‘tannery’. Is the prior meaning, ‘Jewish’ or ‘tannery’? Dialectical resolution: Why not Jewish tanners? A familiar Jewish name in German is *Gerber* ‘tanner’, and in other languages. St. Peter, Simon Bar Jonah, sojourned several days in Joppa in the house of Simon the tanner (Acts 9.43, 10.42).³¹

³⁰ *Comme darb, qui lui est à peu près synonyme, au Caire hâra peut signifier à la fois ou alternativement cette “zone” habitée et la voie qui la distribue los de la calle.* UNESCO 29\00. A word for an ethnic enclave in Arabic is *mahala* ‘camp, settlement’. The Turks brought this to the Balkans. The old Jewish ghetto in Morocco is called by a variant of this, the *mellah* (Bénech 1940).³⁰ (www.dafina.net/lemellah.htm).

³¹ A Litvak Jewish surname from Galicia meaning ‘tanner’ is *Yuchmacher*. Cognate is German *Jauche* ‘liquid manure’ (a stinking pool); *Jauchengrube* ‘(liquid) manure pit’. With (again) kaleidoscopic spectrum, further afield: Yiddish (*goldene*) *Yoikhe* ‘chicken soup; Croatian *juha* ‘soup’, Austrian German *Jausen* ‘picnic snack’, from Slovenian *užin* ‘supper’.

REFERENCES

- ANTTILA, RAIMO. 1997. *Analogy*. The Hague: Mouton.
- ASKI, JANICE M. 1995. Verbal Suppletion: An Analysis of Italian, French, and Spanish “to Go.” *Linguistics: An Interdisciplinary Journal of the Language Sciences* 33. No. 3 (337) pages 403-32.
- BARTOLI, MATTEO GIULIO. 1932. *Archeografo Triestino XXIX*.
- BATTAGLIA, SALVATORE. 1961. *Grande dizionario della lingua italiana*. Torino: Unione Tipografico-editrice Torinese.
- BATTISTI E GIOVANNI ALESSIO. 1950-57. *Dizionario etimologico italiano*. Firenze: Barbèra
- BÉNECH, JOSÉ. 1940. Essai d’explication d’un mellah (ghetto marocain). Kaiserslautern: Buchdruckerei. und Verlag H. Rohr.
- BENVENISTE, EMILE. 1950. Problèmes sémantiques de la reconstruction. Word 1.
- BLAŽEVIĆ OFM. 1917. Crkva sv. Ante Padovanskog u Sarajevu. (The church of St Anthony of Padua in Sarajevo), cited in Lučić. Blingster 2001.
<http://www.thabblingster.com/dictionary.html>
- BORGIO 2002. I borghi medievali... www.cavallinotreporti.it - Venezia-Mestre
- CARACCIOLO ARICÒ, ANGELA MARIA. Editor 2001. *Marin Sanudo Il Giovane, Le vite dei dogi (1474-1494)* Roma-Padova Vol. II Ed. Editrice Antenore.
- COLOMBO, CRISTINA. 1962. *Leon Battista Alberti della Prima Grammatica Italiana. Studi Linguistici Italiani. III*.
- CONDON, BRIAN . 2000. Editor. *The Diary of John Thomas Hynes OP, 1799-1869, Bishop of Leros and Apostolic Administrator, later Vicar Apostolic of British Guiana, 1843-1858*. Melbourne: Melbourne Diocesan Historical Commission of the Catholic Archdiocese of Melbourne.
- CORYAT, THOMAS 1611. Coryat’s Crudities. Hastily Gobbled Up in Five Moneth’s Travels.
- CRUSCA. 1893. DIZIONARIO DEGLI ACCADEMICI DELLA CRUSCA. 5° Impressione. Volume VII. Firenze: Topografia Galliana di M. Vellini.
- DEBENEDETTI-STOW, SANDRA. 1992. The Etymology of “Ghetto”. New Evidence from Rome. Jewish Studies. Volume 6, Numbers 1-2 / March, 1992.
- DE FELICE, EMIDIO. 1987, Dizionario dei Nomi Italiani. Origine, Etimologia, Storia, Diffusione e Frequenza di Oltre 18.000 nomi. Firenze: Arnoldo Mondadori Editore.
- DIZIONARIO ENCICLOPEDICO ITALIANO. Rome: Istituto della Enciclopedia Italiana.
- DU CANGE. 1883-87. Glossarium ad Scriptores Mediae et Infimae Latinitatis. Ed. L. Favre. Niort
- ENCICLOPEDIA ITALIANA. 1929 - 1937. Roma: Istituto della Enciclopedia Italiana. Treccani.
- ENCYCLOPÆDIA BRITANNICA. 1911.
- ENCYCLOPÆDIA BRITANNICA ONLINE. <http://www.eb.com:180/bol/topic?eu=37405&sctn=1>
- ENCYCLOPAEDIA JUDAICA. 1928-1934. *Das Judentum in Geschichte und Gegenwart. Band 7*. Eds. Jakob Klatzkin (Jakub Klaczkin) and Ismar Elbogen. Berlin: Eschkol.
- ENCYCLOPAEDIA JUDAICA, 1972. Ed. Fred Skolnik. New York: Macmillan Company.
- EVELYN JOHN. ftp://ftp.cac.psu.edu/pub/humanities/John_Evelyn/1620-55.dia
ftp://ftp.cac.psu.edu/pub/humanities/John_Evelyn/1620-55.dia
- FALLING RAIN GENOMICS. 1996. Ebook. Palo Alto C.
<http://www.calle.com><http://www.calle.com/>

- FERGUSON, CHARLES A. 1959. Diglossia. *Word* 15: 325-340.
- FILIPPI, FRANCO & MARINA CRIVELLARI BIZIO, ANDREA PEREGO, 2009. *Giuseppe Tassini, Curiosità Veneziane* [1863].
- FIRTH, JOHN RUPERT. 1957. *Papers in Linguistics 1934–1951*. London: Oxford University Press.
- GIAQUINTO, PASQUALE. La morte di Pio IV — Gian Pietro Carafa (1476-1559; Pontificate 1555-1559); <http://www.cronologia.it/biogra2/paoloiv.htm>
- GOLD, DAVID. 1984. A bibliography of secondary literature on the origin of the word ghetto. *Jewish Language Review*. 4.142.
- GRAYSON, CECIL. 1964. Leon Battista Alberti. La prima grammatica dell lingua volgare: La Grammatichetta Vaticana. Codex vaticanus reginensis latinus. 1370. Bologna: Carducci.
- HALL, ROBERT A. 1960. *Linguistics and Your Language*. Garden City NY: Doubleday, Anchor Books.
- HAZLITT, C. CAREW. 1915. *The Venetian Republic. Its Rise, its Growth, and its Fall*. Volumes. 1 and II. London: Adam and Charles Black. New York: Macmillan.
- HELLMANN, MANFRED. 1981. *Grundzüge der Geschichte Venedigs*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- JOFFE, JUDAH A. 1946. The Origin of the word ghetto. *YIVO Annual of Jewish Social Studies*. 260-275. New York: Yiddish Scientific Institute.
- KEYSSLER, JOHANN GEORG. 1740. *Johann George Keyßlers Fortsetzung neuester Reisen durch Teutschland, Böhmen, Ungarn, die Schweitz, Italien und Lothringen : worinn der Zustand und das merckwürdigste dieser Länder beschrieben wird; mit Kupfern*. 1760/1756. II. 76. *Travels through Germany, Bohemia, Hungary, Switzerland, Italy, and Lorrain. Giving a true and just description of the present state of those countries; their natural, literary, and political history; manners, laws, commerce, manufactures, painting, sculpture, architecture, coins, antiquities, curiosities of art and nature, etc. Book 4 v. illus. plates, table 27 cm*. 1st German edition, 1740. London, Printed for A. Linde and T. Field.
- KOMPERT, LEOPOLD. 1860. *Eisik's Brille*. <http://www.calle.comhttp://gutenberg.spiegel.de/kompert/eisik/eisik.htm>
- _____. 1865. *Geschichten einer Gasse*. Berlin: Gerschel.
- LANGHOFF, STEPHAN. 1977. Semantic investiture of underspecified units in syntax. *Papers from the Third International Conference on Historical Linguistics, Hamburg, August 1977*.
- LARDSCHNEIDER-CIAMPAC, ARCHANGELUS. 1933. *Wörterbuch der Grödner Mundart*. Innsbruck: Universitäts-Verlag Wagner. Schlern-Schriften. Veröffentlichungen der Landesbunde von Südtirol. Ed. R. v. Klebelsberg. Nr. 23.
- LEVIN, SAUL. 1975. Greek occupational terms with Semitic counterparts. *The First Lacus Forum* 1974.246-263. Eds. Adam Makkai & Valerie Becker Makkai. Columbia SC: Hornbeam Press.
- LEVY, SIMON. 1992. Hâra et Mellah: les mots, l'histoire et l'institution (toponymie et histoire) in Sebtî, A. (dir.). *Histoire et linguistique*, Rabat, Université Mohammed V.
- LIBERMAN, ANATOLY. 2010. *A Bibliography of English Etymology*. Minneapolis: University of Minnesota.
- LUCIC OFM, LJUBO, 1993. Prilozi historiji Sarajeva. Presence of Franciscans in Sarajevo. *Papers presented at the symposium "Half a Millennium of Sarajevo". March 19 – 21*. http://www.iis.unsa.ba/posebna/sarajevo/index_.html http://www.iis.unsa.ba/posebna/sarajevo/ljubo_lucic.htm
- MAHER, J. PETER, ALLAN R. BOMHARD AND E. F. K. KOERNER. CURRENT ISSUES IN LINGUISTIC

- THEORY. 13. 1982.
- MAIDEN, MARTIN. 1995. *A linguistic History of Italian*. London: Longman.
- _____. 1996: 167-201. The Romance gerund and system-dependent naturalness in morphology. *Transactions of the Philological Society*.
- MARTY, MARTIN. 1981. *Locations: At home in the ghettos*. American Catholic Historical Association.
- PIANIGIANI, OTTORINO. 1932. *Vocabolario etimologico della lingua italiana*. Con prefazione di F. L. Fulle. Milano. Casa Editrice Sonzogno.
- PIRROTTA, NINO & ELENA POVOLEDO . 2008. *Music and Theatre from Poliziano to Monteverdi*. Cambridge.
- PRATI, ANGELICO. 1951. *Vocabolario etimologico italiano*. Milano: Garzanti.
- READ, THOMAS. 1934. The Early Casting of Iron: A Stage in Iron Age Civilization. *Geographical Review*. Vol. 24, No. 4.
- ROTH, CECIL. 1930. *History of the Jews in Venice*. Philadelphia.
- _____. 1932: 68-76. *Revue des Etudes Juives*. LXXIX. 163ff.
- _____. 1934. The origin of *ghetto*, a final word. *Romania*. 60: 58-76.
- www.provincia.roma.it/siti_esterni/provincia/Borghi/sanvito/cultura.html
- SANUDO, MARIN [MARINO SANUTO]. *Diari. De origine, situ et magistratibus Urbis Venetae ~ La città di Venetia [1493-1530]*, edizione critica di Angela Caracciolo Aricò, Glossario a cura di Paolo Zolli. Cisalpino-La Goliardica.
- SERMONETA, GIUSEPPE (or Joseph, or I. B.). 1974: (185-281). Sull' origine della parola *ghetto*. *Studi sull'Ebraismo Italiano*. Roma: Barulli.
- SILVESTRI, GIUSEPPE Editor. 1955. *Tutte le Poesie di Berto Barbarani*. Preface by Diego Valeri. Firenze: Mondadori.
- SLAGLE, UHLAN VON. 1974. The Kantian Influence on Humboldt's Linguistic Thought. *Historiographia linguistica*. 341-350. Amsterdam: Benjamins.
- SPANO, GIUSEPPE. 1851. *Vocabolario Sardo-Italiano*, Voll. 1-2.
- SPITZER, LEO. 1946, in Joffe 1946. 1914-15. Wörter und Sachen. VI. 104-205.
- TEMANZA, ANTONIO. 1781. *Antica Pianta dell'inclita città di Venezia delineata circa la metà del Xii Secolo, ed per per la prima volta pubblicata ed illustrata*:
- TEZA, EMILIO [1831- 1912]. 1904. Intorno alla voce ghetto. Dubbi da togliere e da risvegliare. *Atti del Real Istituto Veneto di Scienze, Lettere ed Arti*. 173-1286. 38-40. Volume 63, Part. 2, 1903-04. Reprinted in W. M. Rossetti. *Miscellanies*, v. 64. Venezia : C. Ferrari
- TIMM, ERIKA & GUSTAV ADOLF BECKMANN – 2006. *Etymologische Studien zum Jiddischen*: books.google.com/books?isbn=3875484681
- TOAFF, ARIEL. 1965. *Publications of the American Sephardi*. New York: Yeshiva University.
- TREASURY OF CITY WORDS. MULTILINGUAL HISTORICAL DICTIONARY. 2000. www.unesco.org/most/p2tresoreng.pdf
- TOMMASEO, NICOLÒ AND BERNARDO BELLINI. 1869. *Dizionario della lingua italiana*. Torino - Napoli: L'Unione Tipografico-Editrice Torinese.
- UCKELMAN, SARA L. 2009. Italian Family Names from the Online Tratte of Office Holders 1282-1532. <http://www.ellipsis.cx/~liana/names/italian/tratte/familynames.html>
- UNESCO. June 2000. A treasury of city words. 2000/Multilingual historical dictionary. www.unesco.org/most/p2tresoreng.pdf
- WARSCHAWSKI, MAX. *Histoire des Juifs de Strasbourg*. www.sdv.fr/judaisme/histoire/villes/strasbrg/hist/hist1.htm

- WEINREICH, MAX. 1980. *History of the Yiddish Language*. New Haven: Yale University Press.
- YRIARTE, CHARLES, IN ESTHER SINGLETON. 1905/1911. The Fondaco dei Turchi and the Fondaco dei Tedeschi. *Venice as seen and described by famous writers*.
- ZAMBALDI, FRANCESCO [1837-1928]. 1889. *Vocabolario etimologico italiano*. Castello: S. Lapi
- ZANGWILL, ISRAEL. 1897, 2012 *Children of the ghetto*. Memphis, General books.
- ZILLE, ESTER. 1985. Il ghetto in un documento veneziano. *Archivio Veneto*. 124.101-108.
- ZOLLI, PAOLO. 1979 - 1988. *Dizionario etimologico della lingua italiana*. Bologna: Zanichelli. 5 volumes.
- _____. 1979. *La parlata giudeo-veneziana*. Assisi-Roma.

This article was first published at lacus.weebly.com.





SUBSTITUTIONS AS SPEECH ERRORS:

“I resemble that remark!” – Curly

WILLIAM J. SULLIVAN

SARAH TSIANG

Uniwersytet Marii Curie-Skłodowskiej Eastern Kentucky University

Abstract: The type of speech error known as substitutions has been studied extensively with regard to whether the words that appear are related to the intended word semantically, phonetically, or both, and whether their occurrence is influenced by priming. We have gathered an extensive body of substitutions in English and Polish and analyze them relative to the degree of phonetic resemblance. In both languages, the five-stratum model that figures in our previous research shows up again, though not in as much detail as with some other error types. In addition, we have substitutions that are not phonetically related at all, which show a number of purely semantic relations. In sum, substitutions are compatible with the findings of all our previous research on errors.

Keywords: Substitutions, speech errors, timing errors, tactic pattern errors, blends, relational network theory, strata

Languages: English, Polish

OUR PREVIOUS WORK ON SPEECH ERRORS in English and Polish (cf. Sullivan 2011, Sullivan & Tsiang in press a, Sullivan & Tsiang in press b, Tsiang & Sullivan in press) is aimed at the insights errors provide on how linguistic utterances are encoded and decoded and what this allows us to deduce about the logic of the system underlying the storage and processing of linguistic communication. We have also been studying errors relative to their compatibility with neurocognitive relational network theory, a non-Chomskyan approach to linguistics. Previous work has considered timing errors (anticipation, perseveration, spoonerisms), tactic pattern (TP) errors,¹ unintended blends, and redundancies. The results of these studies on the first three classes of errors showed that the basic assumptions of the theory used are valid. Redundancies, while not, strictly speaking, errors, are seen to be compatible with the model adduced from descriptive work (see **Figure 1**). That is, they support a relational network linguistic system with five strata (for English and Polish). Each stratum has a central tactic pattern where the emes of that stratum are identified, grouped, and sequenced. The emes are also related to the emes of adjacent strata and (ultimately) to cognition and sound (or the motor cortex). The system is operated by loosely-

¹ Structural errors in a broad sense, i.e., not only errors in syntactic structure but errors in discourse, morphological, phonological, or hypophonological structure.

yoked spreading activation through the network. When combined with the assumption that random rest periods may be taken on different strata during the processing, timing errors, TP errors, and unintended blends are predicted. Redundancies are not predicted, but they are compatible with the system and the processing assumed. The examples examined and analyzed heretofore were gathered from natural speech by the co-authors, their students, and their friends, rather than under forced error conditions.²

We turn now to previously unclassified errors.

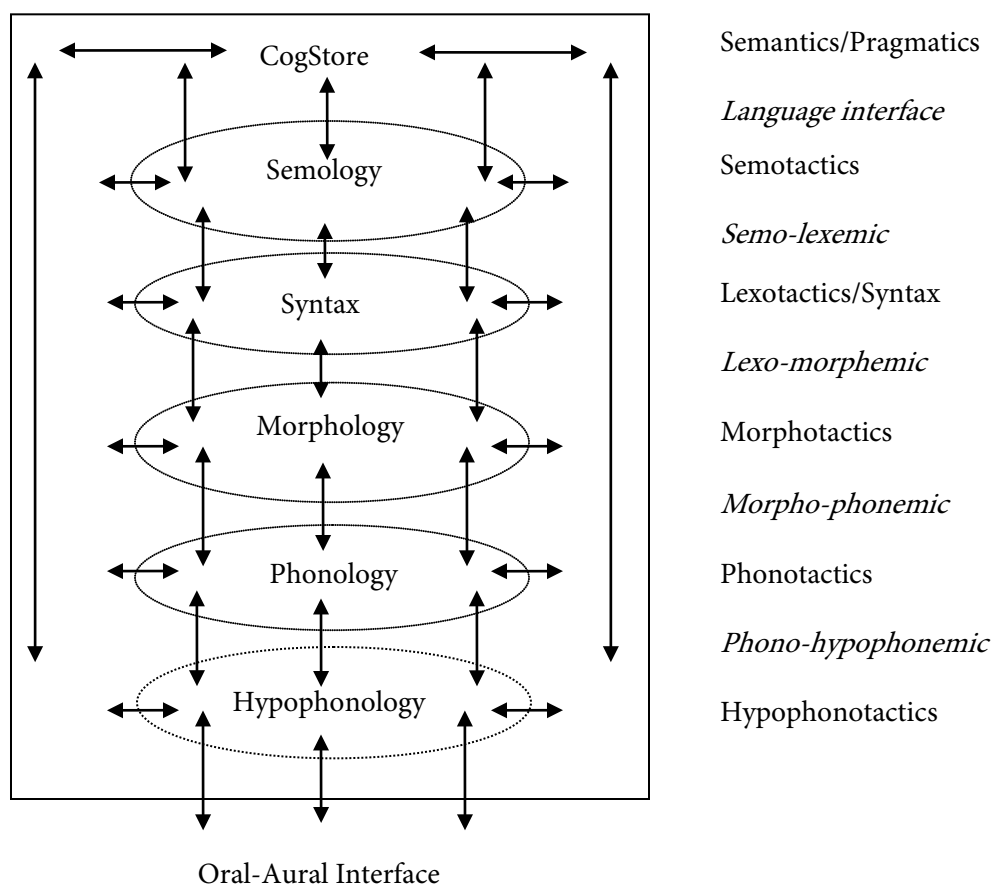


Figure 1. Outline of the linguistic system, relative to the cognitive store.

1. SUBSTITUTIONS. When we looked at the remaining errors, we discovered that a relatively small percentage of examples were a mystery to us and to the students who gathered them and may have been erroneously recorded, but the vast majority could be identified as a fifth type of speech error, substitutions. Freud studied word substitutions to learn whether they were related to the intended words semantically, in hopes of discovering hidden mental intent. More linguistic studies have focused on whether the substitutes were related to the intended words semantically (often, but not always), phonetically (often, but not always), in both ways (sometimes) or neither (sometimes), and whether they can be primed verbally or by context (unquestionably so, if not every time, cf. Dell & Reich 1977).

² For a discussion of the reasons, see Sullivan & Tsiang in press a.

But we note that there are many ways two linguistic forms can be related phonetically and many ways they can be related semantically. Right from the start, we were struck by discrepancies in the kinds of phonetic resemblances between the word intended and the form that appeared. The degree of discrepancy ranged from a single feature difference to an entire lexeme or more. When we classified the substitutions according to the size of the discrepancy, the substitutions fell into groups compatible with **Figure 1**. This was true for both Polish and English examples. We begin with our analysis of phonetic discrepancies, starting with hypophonological substitutions, then turn to semantic relations.

2. ANALYSIS OF PHONETIC RESEMBLANCES.

2.1. HYPOPHONEMIC DISCREPANCIES. Hypophonemic discrepancies are those in which the difference between what was produced and what was intended is a single hypophoneme. A representative sample of hypophonemic substitutions is presented in **Table 1**.

Form observed	Form intended
We find out why Charlie Sheen is suing the [pown] star	porn
A guy walks into a [ɹɑʹ-fəl] House ...	Waffle
Hear how a passenger, threw sheets to the wind ...	three
And now they're in high dungeon	dudgeon
mówimy o tym od wielu rat 'we've been speaking about this for many installments'	lat 'years'
czostek '?'	czosnek 'garlic'
dźwi '?'	drzwi 'door(s)'

Table 1. English and Polish hypophonemic substitutions.

We begin with the English examples. In the first example we have [pown] instead of *porn*, with a labial instead of (apical) retroflexion. The second example has [ɹɑʹ-fəl] instead of *Waffle*. This simply reverses the previous substitution, though it is in syllable onset rather than coda position. *Threw* in place of *three* was self-corrected, unlike the other three. It shows a high vowel with labial articulation substituted for frontal articulation.³ Finally, *dungeon* in place of *dudgeon*. Here nasal articulation was added to the apical closure of d to give [n]. This could possibly be a case of hypophonemic anticipation.⁴

Now consider the Polish examples. The first, *rat* for *lat*, substitutes a trill for a lateral, both apical. *Czostek* for *czosnek* removes nasality, leaving apical closure. Finally, *dźwi* for *drzwi* substitutes fronto-domal articulation for fronto-palatal.

We turn now to phonemic substitutions.

2.2. PHONEMIC DISCREPANCIES. Phonemic discrepancies are those in which the difference between what was produced and what was intended is at least a single phoneme or part of a syllable. A representative sample of phonemic substitutions is given in **Table 2**.

³ Note that when a substitution results in an actual lexeme, the source or locus of the error may be ambiguous, unless context helps to disambiguate the situation.

⁴ We thank Connie Eble for suggesting that this could also be a case of a kind of folk etymological attempt to reconstruct an arcane expression.

Form observed	Form intended
machine gun shells of the sort intended to explode on contract	contact
<i>Bowling for Concubine</i>	Columbine
... and beautiful hats and camisoles	parasols
We've seen the use of the N-word, the F-word, the C-world	C-word
<i>Minister spraw wewnętrznych, Krzysztof Jajnik</i> 'the Minister of External Affairs Krzysztof Ovary'	<i>Janik</i> (ordinary surname)
<i>z budynku wyszła chmura ludzi</i> 'from the building exited a cloud of people'	<i>chmara</i> 'crowd'
<i>Muszę pomyśleć w co ubiorę się do zęby</i> 'I must think what to put on for tooth'	<i>pracy</i> 'work'

Table 2. English and Polish phonemic substitutions.

First, the English examples. *Contract* shows a substitution of the onset of the post-tonic syllable.⁵ The second example, *Concubine*, was read out to a class as part of the Michael Moore movie title by a high school teacher. Here the first two syllables differ, though the word-initial onset is the same. The next example, *camisoles*, also substitutes the first two syllables. The speaker was describing a photograph from the Keeneland Racecourse. It is clear from the scene that he intended to say *parasols*. This would seem to be an ANTI-priming example. Finally, each of us got an example like the fourth, where *C-world* (or perhaps *SeaWorld*) was substituted for *C-word*. We consider this a substitution of the entire coda of the post-tonic syllable, because of the articulation of the vowel, though it could of course be an entire lexeme that was substituted.

Now look at the Polish examples. In the first example, a *j* is added in coda position of the accented syllable of *Janik*, an ordinary surname, to give *jajnik* 'ovary', an error that never fails to amuse Polish speakers. *Chmura* 'cloud' for *chmara* 'crowd' shows a substitution of the syllabic peak. Last, *zęby* 'tooth' for *pracy* shows an entire syllable substitution. This could be ascribed to a morphological substitution except for one thing: *zqb* 'tooth' is masculine, *praca* 'work' is feminine. If the substitution were morphological, the form would have been *zęba*, with a masculine genitive case ending.

We turn now to morphological substitutions.

2.3. MORPHEMIC DISCREPANCIES. In morphemic discrepancies the difference between the form observed and the form intended is identifiable under some analyses as a morpheme. A set of morphemic substitutions is given in **Table 3**.

Form observed	Form intended
you haven't conceived me	convinced
I hear "babe" footprints behind us	footsteps
Does human activity continue to global warming?	contribute
Al Hunt is now giving Obama advice on how to save his pregnancy	presidency
<i>plci miejskiej</i> 'municipal sex'	<i>męskiej</i> 'male'
<i>On jest mężaty</i> 'he is married'	<i>żonaty</i> 'married'
<i>Podaj mi tą koleżankę</i> 'Hand me that (female) colleague'	<i>filiżankę</i> 'cup'

Table 3. English and Polish morphemic substitutions.

⁵ Under another phonemic analysis, we could call this the addition of retroflexion to the onset of the post-tonic syllable.

We start with the English examples. The first example, with *conceived* where *convinced* was clearly intended, might be a substitution of the root morpheme *vinc*, or it might have been a substitution of the verb stem *convinc*. The second example, *footprints* for *footsteps*, was intended to refer to the sound made by a fashionable young woman walking in high heels. In the case of the third example, *continue* for *contribute* could be a substitution of roots, of verb stems, or even a lexemic (whole word) substitution. We include it as an example that has several possible analyses while clearly being a substitution. The fourth example, *pregnancy* for *presidency*, has a possibly bi-morphemic stem substituted by a monomorphemic stem which is also the word’s root.

The Polish examples are somewhat more interesting linguistically. In the first example, *miejskiej* ‘municipal’ is substituted for *męskiej* ‘masculine’. *Miejskiej* is the adjective related to *miasto* ‘city’ and *męskiej* is an adjective for *mąż* ‘husband, man (in Old Polish)’. Both roots exhibit allomorphy (or morphophonemic alternation) and both begin with *m*. Beyond that there seems to be no priming factor involved. *Mąż* ‘husband’ is involved in the next example, when it appears instead of the morpheme *żon* ‘wife’. In the third example, *koleżankę* ‘(female) colleague’ appears in place of *filiżankę* ‘cup’. Both root morphemes are borrowings. There is at best a tenuous semantic relation here, but we can’t help wondering what a Freudian would make of it.

This completes the survey of morphemic substitutions.

2.4. SYNTACTIC SUBSTITUTIONS. The remaining substitutions are all at least a lexeme in size. The clearest evidence that a substitution is syntactic (lexemic) in nature is if it fits seamlessly into the intended syntactic output in terms of structure and word order. No syntactic adjustments are needed. How they differ from sememic and purely semantic substitutions is made clear in following sections. A set of lexemic substitutions is given in **Table 4**.

Form observed	Form intended
when Christmas is celebrated by millions of Eastern Orthodox religions	Christians
Will he (Assange) be executed to Sweden?	extradited
the Asia-Pacific phone	zone
<i>Wrzucić Ci obiad?</i> ‘throw dinner in for you’	<i>Nalożyć</i> ‘lay out’
<i>znaleźć jeden język</i> ‘find one language’	<i>wspólny</i> ‘(a) common’
<i>zmienić się o 360 stopni</i> ‘change by 360 degrees’	<i>przekręcić się</i> ‘rotate’

Table 4. English and Polish syntactic substitutions.

The first English example was produced by a BBC radio announcer in an interview on RTEire 1. The semantic connection between *religions* and *Christians* is clear. The substitution is syntactically smooth. The second example appeared in a Q&A on a news show. At the time Julian Assange of WikiLeaks had just sought asylum in the Ecuadorian embassy in London. The Swedish government was demanding his extradition to face rape charges. His defenders were claiming that the rape charges were fraudulent, and they feared that the Swedish government would then grant an extradition request from the United States. His defenders expressed the fear that Assange could then be executed for treason.⁶ The third English example was produced by a speaker who was talking on the phone, discussing eastern Asia. This time the pragmatic context provided the

⁶ Since Assange is neither a spy in wartime nor a serving member of the Armed Forces of the United States, the stated fear is without much basis in fact.

priming for the substitution, which is syntactically seamless.

Now consider the Polish examples. The student who provided this example noted that *wrzucić* ‘throw in’ would have been appropriate if the dinner in question were ready but cold and was about to be ‘thrown into’ the oven. In fact, the dinner was ready to be put onto a plate and laid in front of the addressee. In the second example the point was that two foreigners must find *jeden* ‘one’ language that was *wspólny* ‘common’ to them both.

The third Polish example might be either a syntactic or a semological substitution, depending on what lexeme was substituted. *Zmienić się o 360 stopni* ‘change by 360 degrees’ makes no sense as it stands. Apply it to a car. Changing (course) by 360 degrees would spin the vehicle through a complete circle and put it back on its original course. If we assume that the verb was substituted, we can provide the intended phrase by using the verb *przekręcić się* ‘turn through’, i.e., through an entire circle. Not knowing the circumstances or the speaker’s intent, we cannot state conclusively that this substitution is what occurred. There is another possibility, which we take up in section 2.5, when we deal with semological substitutions.

2.5. SEMEMIC DISCREPANCIES. Sememic discrepancies may appear to be the same size as lexemic discrepancies, but they differ in one of two ways in our examples. Either a fixed collocation is somehow violated, though with a lexeme that makes some sense in context, or an expression (phrase or clause) is provided. It is superficially appropriate syntactically but is semologically anomalous. A set of examples is provided in **Table 5**.

Form observed	Form intended
The (auto company) bailout didn’t trickle down to the state of Detroit.	city
No more golden handcuffs (for bank presidents in Switzerland) upon departure and possible jail time if they’ve violated (the new regulations).	parachutes
The taxpayers have to weigh the brunt of these expenses.	bear
<i>Jej karierę zniszczono w zarodku.</i> ‘Her career was destroyed at birth’	<i>zduszono</i> ‘smothered’
<i>Zjadłbym wilka z kopytami.</i> ‘I could eat a wolf with the hoofs.’	<i>konia</i> ‘horse’
<i>zmienić się o 360 stopni</i> ‘change by 360 degrees’	180

Table 5. *English and Polish sememic substitutions.*

In the first English example, *state* intruded in the fixed collocation *city of Detroit*. But both are branches of the government. Similarly, *handcuffs* replaces *golden parachute* in a fixed expression. In this case the idea of *handcuffs*, which are used to bind accused or convicted criminals, is in the semantic context of the following text, where jail time is mentioned. In fact, *handcuffs* might be an example of cogno-sememic anticipation (cf. Sullivan 2011). The third example is even more striking. *Weigh* intrudes into the fixed collocation *bear the brunt*, and not unreasonably, since we weigh and bear burdens. What is most interesting is the fact that *bear the* ____ is the only context in which the lexeme *brunt* occurs.

The first two Polish examples also have intrusions into fixed collocations. In the first, *zniszczone* ‘destroyed’ supplants the predicate verbal in the fixed collocation *zduszono w zarodku* ‘smothered at birth’. In both cases the patient (not expressed) was given no chance to develop,⁷ so the result is essentially the same. The second, *zjadłbym wilka z kopytami* ‘I could eat a wolf with the hoofs’, is somewhat humorous, because wolves do not have hoofs. A secondary association could be with the Polish potato dish called *kopytki* ‘hoofs (dim.)’. Of course, the original expression, *zjadłbym konia* ‘I could eat a horse’, also occurs in English.

The third example, *zmienić się o 360 stopni* ‘change by 360°’, is discussed in section 2.4 as a syntactic substitution, where the assumption was that the verb had intruded. But what if *zmienić się* ‘change’ is as intended, but the 360° intruded, replacing 180°. Then *zmienić się o 180 stopni* makes sense as ‘reverse direction’. Our only problem is in not knowing which of these substitutions was the one that actually occurred.

We turn now to cognitive substitutions.

2.6. COGNITIVE SUBSTITUTIONS. Cognitive substitutions seem to be motivated by a semantic relationship that holds between the intended form and the form produced. A set of examples is given in **Table 6**.

Observed form	Intended form
ahead of us	behind
We’ll return to that very briefly .	soon
We’ve stopped outside of Puławy .	Opole
<i>Podczas każdej mszy ksiądz musi wypić łyk piwa.</i> ‘during each mass the priest must drink a mouthful of beer ’	<i>wina</i> ‘wine’
<i>daleko go nie było</i> ‘since far away he hasn’t been (here)’	<i>długo</i> ‘long ago’
<i>Mam siostrzenicę.</i> ‘I have a niece.’	<i>bratanicę</i> ‘niece’

Table 6. English and Polish cognitive substitutions.

In these examples of cognitive substitutions, there are no patterned linguistic resemblances. The observed forms may have some kind of linguistic resemblance to the intended form, but the main thing that they have in common is some kind of cognitive relation. In the first example, *ahead of* and *behind* are antonyms. *Briefly* and *soon* are both short periods of time, but they are applied to different temporal contexts: *briefly* means that we’ll have a short period to consider whatever it is when we do return to it; *soon* means that it will only be a short period of time before we return to it.

We’ve stopped outside of Puławy requires some explanation. Mary Sullivan said this to WJS on a train ride from Lublin to Wrocław to warn him that he’d better wake up and take the suitcases down from the rack. In fact, we were stopped at Opole. Puławy is the last town of some size before the train reaches Lublin on the Wrocław-Lublin line. Opole is the last town of some size before the train reaches Wrocław on the Lublin-Wrocław line. Puławy is about as far from Lublin as Opole is from Wrocław. Given the opposite orientations, they are equivalent in several ways. Most importantly, they usually serve the same purpose for Mary, whichever direction she and WJS are traveling.

Now consider the Polish examples. *Piwo* ‘beer’ and *wino* ‘wine’ are both low-alcohol

⁷ Magda Stroinska reminds me that *zduszono* ‘smothered’, normally applies to a living patient, giving her (as a native speaker) the impression of greater violence, on which we agree.

beverages. The example got a laugh from a roomful of Polish students, perhaps because there is no such thing as sacramental beer. *Daleko* ‘far (away)’ and *dlugo* ‘long (ago)’ are both used to indicate a large extent, but *daleko* is spatial and *dlugo* is temporal. Finally, *siostrzenicę* and *bratanicę* both translate as ‘niece’. But *siostrzenica* is the daughter of a sister and *bratanica* is the daughter of a brother. Note, the student who produced this had no sister but did have a brother with a daughter.

The survey of examples is complete. It is clear that they should have something in common, or at least in parallel. We turn to that now.

3. DISCUSSION. We have presented many different types of substitutions in section 2. We need to present three things now: what it is that substitutions share or what parallels there are between them, how they relate to the network presented in **Figure 1**, and what they show regarding the linguistic system.

Consider the logic of substitutions. There are three linguistic elements that all of them show. First, the two choices have something in common. Second, one of the choices is what was intended. Third, the other choice is what appeared and was observed. The simplest network that might underlie such a description is given in **Figure 2**, where *X* is what the two have in common, *a* is the intended form, *b* is the form that appears, and the bracket is an OR node: {*X* is realized as *a* OR *b*}. In many cases we would posit a much more detailed network, but at base there must be something that parallels the relations in **Figure 2**.

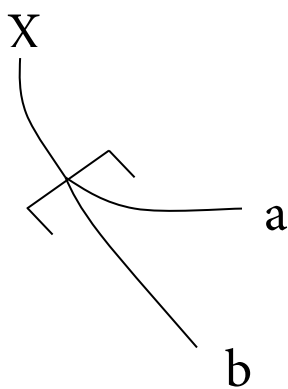


Figure 2. *What underlies a substitution?*

The next question is how the network in **Figure 2** relates to the network of **Figure 1**. The answer is simple. Note the horizontal arrows at the sides of the linguistic system. They provide direct input to the emes at each stratum. We posit (Sullivan & Tsiang in press a) that these arrows provide additional input that helps explain redundancies. Now it seems that they might also predict the possibility of substitutions.⁸ We see them as the locus for the nexions involved in priming effects.

Now consider **Figure 1** again. It is a relational network, activated by spreading activation. It

⁸ WJS earlier speculated, in yet incomplete materials, that there was a basic descriptive need for such additions to the network.

has five strata for English and Polish. Each stratum defines the emes of that stratum. The emes are related to each other by the tactic network and are related to the emes of the adjacent strata by realizational (functional-formal) networks to the two adjacent strata (and ultimately to meaning [cognition] and sound [the motor cortex]). The input signals from the cognitive store are not sequenced, but the phonetic output is linear. Each stratum provides linearization for its own emes. Encoding by spreading activation is a matter of electrochemical potentials, not of on-off switches. It operates on adjacent strata in loose parallel, and each stratum may take rest periods at random intervals. Asynchronies may result in certain types of speech errors; other errors, e.g., substitutions, may result from imbalances in competing potentials. Yet all this is compatible with the system outlined in **Figure 1**.

4. CONCLUSION. In short, an examination of substitutions provides further support to the architecture outlined in **Figure 1** and to the cogency of the assumptions that underlie neurocognitive relational network theory.

REFERENCES

- BACZ, BARBARA. 1992. Towards the meaning of the nominative in Polish. *LACUS forum XIX*.256-63.
- DELL, GARY S., & PETER A. REICH. 1977. A model of slips of the tongue. *LACUS forum III*.448-55.
- LAMB, SYDNEY M. In press. Toward a neurological account of word-priming effects on behavior. To appear in *LACUS forum XL*.
- REICH, PETER A. 1984. Unintended puns. *LACUS forum XI*.314-22.
- SULLIVAN, WILLIAM J. 2011. Input, output, and (de)linearization: What we owe to Sydney M. Lamb. *LACUS forum XXXVI*.279-89.
- , & SARAH TSIANG. In press a. "It's *deja vu* all over again!": Are redundancies speech errors? To appear in *LACUS forum XXXIX*.
- & ---. In press b. Tactic pattern errors and the architecture of stratificational theory. To appear in *LACUS forum XXXVII*.
- TSIANG, SARAH, & WILLIAM J. SULLIVAN. In press. Unintended blends and the stratification of language. To appear in *LACUS forum XXXVIII*.

This article was first published at lacus.weebly.com





BILINGUAL HIGHER EDUCATION IN THE UNITED STATES: NEEDS, RESOURCES, PROSPECTS

H. STEPHEN STRAIGHT

Binghamton University (State University of New York)

Abstract: Despite widespread commitment to so-called comprehensive internationalization, U.S. institutions of higher education do not, with rare exceptions, commit themselves to turning out graduates able to function effectively in two different languages, even in their chosen discipline, to say nothing of the full range of university-level curricular content. Historically, this goal is thwarted primarily by the difficulty of turning monolingual, or minimally bilingual, students into high-functioning bilinguals in just four or five years of college. Recently, two-way immersion programs, enrolling children from different language backgrounds, promise significant increases in college-ready bilinguals in the near future. Unfortunately, few colleges are developing programs to sustain and expand bilingual/bicultural skills and knowledge. However, a growing number of initiatives, especially under the banner of Cultures and Languages Across the Curriculum, in combination with face-to-face and virtual educational experiences with native or near-native interlocutors both at home and abroad, offer new possibilities for the nurturance of bilingual/bicultural college graduates.

AFTER ENGLISH, WITH 234 MILLION SPEAKERS OVER THE AGE OF FIVE, and Spanish, with 35 million, the 2006-2010 American Community Survey (as summarized at the Modern Language Association Language Map website, http://www.mla.org/map_data) reported 43 other languages with more than 100,000 speakers each, and the 2000 Census (which did not lump closely related languages together as freely as did the 2010 Census) reported another 250+ distinct languages plus a number of undifferentiated groups of languages (for example, “Mayan”) with smaller numbers. (Kalispel, with 4 elderly speakers near the Montana-Idaho border, had the smallest number.) Admittedly, Papua New Guinea and some African and Asian nations may have as many or more languages, but in terms of global inclusiveness and population sizes the U.S. is perhaps the most multilingual society in the world (though to substantiate this claim would require research beyond what is needed for my current purposes).

However, the U.S. is a multilingual society composed mostly of monolingual speakers of English. The old joke about people who speak three languages being called trilinguals, and two languages bilinguals, and one language Americans is probably as true as ever. Multilingualism (the use of multiple languages in U.S. society) is widespread and highly variegated, but

multilinguality (proficiency in multiple languages by individuals) is relatively rare¹. Monolinguality reigns supreme in the U.S. Moreover, U.S. multilinguality consists mostly of second-language ability in English by immigrant speakers of other languages, or native proficiency in English plus limited second-language ability in the primary language of one's parents. Of the nearly 20 percent (57 million in 2010) of the U.S. population who reported a first language other than English, 77 percent (43.7 million) claimed to speak English "well" or "very well" (MLA Language Map).

The predominant monolinguality of the U.S. population for many generations stood as an explicit goal of many immigrants and immigration agencies. The catchword was "Americanization" and the primary key for the achievement of this goal of universal assimilation was the learning of English. (Theodore Roosevelt's "melting pot" aimed to see language as the first foreign element to rise to the top and be skimmed off.) The prime measure of success in "bilingual education" programs in the public schools well into the 1990s consisted of how quickly students stopped using their native language and became mainstreamed into English-only instruction. Even though the dominant metaphor had shifted from melting pot to multicultural mosaic over the course of the 20th century, monolingualism, which for some meant the enactment of English-only laws and regulations, remained a strong "American" value. (An almost certainly apocryphal quote, attributed to various people, urges that "If English was good enough for Jesus Christ, it's good enough for us!") Even with the rise (perhaps reinforced by post-9/11 panic about the obvious negative consequences of U.S. ignorance of global differences) of very popular two-way bilingual immersion programs early in the 21st century designed to maintain and improve skills in languages other than English both by limited-English-proficient/English-language-learners (LEP/ELLs) and native English speakers—about which the rest of this paper will have a lot to say—the State of New York, for example, still prohibits public schools from providing more than three years of part-time instruction in their native language for LEP learners, or of instruction in English as a second language, for that matter (State Education Department 2007:2). (The contradiction posed by offering public school dual-language education while banning more than three years of bilingual education for LEP/ELLs is one I would rather not ask too much about.)

More recently, as I have just mentioned, U.S. society has become far more receptive to multilinguality as an explicit educational goal, to be served both by the learning of world languages by otherwise monolingual English speakers and the improvement of non-English skills in English-dominant heritage-language learners. As I will specify in greater detail later, the increasing economic and other interdependencies and interactions between the U.S. and other nations have steadily increased public interest in the acquisition of knowledge about the world, skills in world languages, and understanding of cultural differences. The present paper explores some of the effects of these changes, with a primary focus on their implication for K-16 education (or perhaps even K-*n* education, where *n* equals whatever year schooling ends). Historically, the U.S. higher education system has turned out few bilingual graduates, but we now have the perceived need, diverse human resources, and proven pedagogical methods to do much better.

1. LANGUAGES AND "COMPREHENSIVE INTERNATIONALIZATION" IN U.S. HIGHER EDUCATION TODAY. A commitment to "comprehensive internationalization" has become ubiquitous, perhaps even hackneyed, at institutions of higher education (IHEs) in the U.S. (ACE 2012):

¹ As is the very useful distinction, introduced by Hamers & Blanc 1983, between mono-/bi-/multi-lingualism as a group (sociolinguistic) phenomenon and mono-/bi-/multi-linguality as an individual (psycholinguistic) phenomenon, a distinction that I will adhere to in this paper.

In 2011, 93 % of doctoral institutions, 84 % of master's institutions, 78 % of baccalaureate institutions, and approximately 50 % of associate institutions and special focus institutions perceived that internationalization has accelerated on their campuses in the past three years.

This professed commitment, which ACE attributes primarily to concerns about global economic competitiveness, international security, and a need for increased intercultural understanding, almost invariably includes prominent mention of the importance of foreign language study, but only 13 percent of doctoral and 6-7 percent of master's and bachelor's IHEs claim to "have one or more professional staff or faculty members dedicated at least half-time" to Languages Across the Curriculum (LAC, LxC) activities in which meaningful use of languages other than English is supported outside of the language-instruction curriculum per se (ACE 2012). In brief, with pitifully few but wonderful exceptions, the current foreign language curriculum in U.S. IHEs does not result in bilingual facility in any field of study other than for the small proportion of students who major or minor in foreign languages, whose facility is highly limited (see below)².

This failure is scarcely new. U.S. higher education has persistently failed to turn out significant numbers of graduates able to function in their major discipline in two different languages and cultures. Even language majors fall short of level 2 (ACTFL "advanced"), to say nothing of level 3 (ACTFL "superior") or higher, on the five-level Interagency Language Roundtable proficiency scale.³ In fact, thanks to the presence of mandatory language study in virtually all college-preparatory high-school curricula, most college graduates possess less skill in a language other than English (LOTE) than they had when they entered. Ninety-five percent of college-bound high-school graduates have studied a LOTE (College Board 2008), but those skills atrophy in most of them for lack of continued study, which stands at only a bit more than half what it was in 1965 (Modern Language Association 2006).

Sad to say, no university seems to care that we are failing to produce bilingual graduates. Perhaps they say, our international students do it, without doing anything to ensure that even those typically bilingual students in fact become conversant with vocabulary in their specialties in both English and their native tongue(s), to say nothing of their being able to explicate the historical or contemporary contrasts between what they are taught in U.S. universities and what they might have been taught in study of those same topics in their own nation or culture. Not a single IHE has committed itself to rectifying this failure. Some (including Middlebury, Dickinson, the University of Minnesota) do more than others to ensure that their graduates leave with more than elementary skill in a LOTE, but they seldom if ever pair this with demands for ability to use more than one language in their specific academic specialties. A handful of bachelor's and master's programs (URI's International Engineering Program, for example⁴) do turn out bilingual graduates in a few language-discipline pairs, but these programs have not been emulated in significant numbers at other institutions (or even at their own—though URI, which for many years supported only German, now supports French, Spanish, Chinese, and Italian). The National Security Education Program's Language Flagship program⁵ succeeds wonderfully in this goal, but at a high cost. Language Flagship has assisted a number of IHEs (21 as of spring 2013) in creating intensive

² See Straight 2009 for ideas about how foreign language faculty, and the curriculum they oversee, might better serve the need for language skills and cultural knowledge beyond the students who major or minor in languages.

³ See Rifkin 2005 and works cited by him.

⁴ <http://www.uri.edu/iep/>.

⁵ <http://www.thelanguageflagship.org/>.

curricula in specific languages: Chinese at 9, Arabic at 6, Russian at 5, and Hindi/Urdu, Korean, Farsi/Persian, Portuguese, Swahili, and Turkish at 1 (some institutions support more than one language), each of which is designed to produce “superior”, “professional-level” fluency. Support includes summer study and semester-long study abroad, plus advanced professional internships⁶.

The fact remains that for all of the talk about preparing graduates to function in a culturally and linguistically diverse environment, demanding advanced knowledge of other cultures and superior facility in other languages, IHEs in general have no reasonable hope, nor even credible plans, to succeed in meeting this multilingual, multinational educational challenge⁷.

2. KEY PROBLEM: LATE START IN U.S. LANGUAGE EDUCATION; KEY SOLUTION: DUAL-LANGUAGE EDUCATION. No one can question that the paucity of bilingual postsecondary programs in the U.S. derives primarily from the difficulty of turning 0+ novices into 3+ advanced-high language users in the time allowed during a 4- or 5-year college education, even with a full year abroad. Predictably, the Language Flagship last year began to fund “a select number of pilot K-12 programs [in 15 states] to provide an articulated path of language instruction ... from elementary school through college.”⁸ These programs, like many others that have popped up across the country, employ a dual-language education (see Howard et al. 2007⁹), specifically a two-way bilingual immersion (see Calderón & Minaya-Rowe 2003) instructional paradigm, in which the students come from English-primary or a specific non-English-primary family background and alternate between English and the other language as the language of instruction. The remarkable rise of such two-way immersion programs in the K-12 curriculum provides some hope that the number of fully bilingual high school graduates, in an array of languages (paired with English), may soon significantly increase.¹⁰

Two striking sources of support for this dual-language solution present themselves. First, the U.S. possesses rich linguistic resources. As a nation of immigrants, some of them quite recent, the U.S. possesses an enviably rich and perhaps globally unique variety of heritage communities eager to maintain and increase their linguistic and cultural identities. The Modern Language Association has created an interactive map on which language-minority communities can be identified by exact (county-by-county) location and size; other details, such as where each language is taught at the college level, can also be accessed on this map.¹¹ Second, Americans express growing interest in the development of global competencies, including language proficiency, in themselves and their children. In LOTE programs within and outside of normal school hours, non-heritage parents and pupils from coast to coast—and even in between—express unprecedented interest in acquiring global competencies in a world that is increasingly interactive and interdependent economically,

⁶ *Discourse: Newsletter of the Language Flagship*, Spring 2013

⁷ See Straight 2008 for an overview of the postsecondary details of this situation, and an early rendition of the position put forward in this paper.

⁸ *Discourse: Newsletter of the Language Flagship*, Fall 2012, p. 4

⁹ The first 40 pages of Howard et al. 2007 consist of a review of research and best practices in DLE by Kathryn J. Lindholm-Leary and the remainder of the book consists of a set of rubrics for assessing the quality of a DLE program with respect to accountability, curriculum, instruction, staff, structure, community, and resources. These rubrics could be used without alteration in the development of college-level DLE programs.

¹⁰ As of December 5, 2012, the Directory [of Pre-K through 12th Grade Two-Way Bilingual Immersion Programs in the U.S., maintained by the Center for Applied Linguistics] lists 422 programs in 31 states (plus D.C.).” (www.cal.org/twi/directory, accessed 2013-05-30)

¹¹ http://www.mla.org/map_main, accessed 2013-07-27

environmentally, and culturally. Across the country, DLE programs have waiting lists of would-be participants (www.cal.org/twi/directory). Furthermore, the College Board, in partnership with the American Council on Education and Art & Science Group LLC, reported in 2008 that 55 percent of U.S. college-bound high school graduates are “certain or fairly certain they will participate in study abroad” and another 26 percent indicated a strong interest in doing so, and

Among those planning to study abroad, more than 70 percent plan either to become proficient in a second language or at least learn enough of the language to be able to comfortably converse with people in that country (College Board 2008).

So much for the claim of a lack of demand for advanced language study in college. Clearly, the colleges are failing to satisfy this demand in a way that is compatible with the other curricular demands of baccalaureate study.

3. THREE TYPICAL DUAL-LANGUAGE EDUCATION (DLE) MODELS.¹² Although the remainder of the present overview focuses exclusively on the two-way immersion model, there are three distinctive dual-language education models. All three employ English and another language more or less equally as the language of instruction, but here are their distinguishing characteristics:

Developmental:

All students are native speakers of a language other than English (LOTE) and, at the outset, unable to use English as their primary medium of instruction. The LOTE serves first as a bridge to English literacy but continues even after the students are fluent in English; this is additive, not subtractive bilingual education.

Two-way immersion (TWI):

Preferably half, and at least one third, of the students are native speakers of each of the two languages (English and a LOTE or “partner language”).

Foreign language immersion:

Most or all of the students are monolingual speakers of English, though some may be novice-level heritage speakers of the partner language or another LOTE.

4. THE TWO-WAY IMMERSION (TWI) MODEL IN PARTICULAR¹³ The Center for Applied Linguistics employs four criteria for listing elementary (K-5) programs as “TWI” (www.cal.org/twi/directory, accessed 2013-07-27):

Integration:

Language-minority and language-majority students are integrated for at least 60% of instructional time (and ideally more) at all grade levels.

Instruction:

Content and literacy instruction in English and the partner language is provided to all students,

¹² Adapted from Howard et al., 2007

¹³ Although this paper focuses on TWI—the strongest of the three DLE models, all three have been shown to be effective in producing substantial bilingual learning outcomes (see Thomas & Collier 2013).

and all students receive instruction in the partner language at least 50% of the instructional day at all grade levels.

Population:

Within the program, there is a balance of language-minority and language-majority students, with each group making up between one-third and two-thirds of the total student population.

Duration of program:

The TWI program begins in Pre-K, Kindergarten, or first grade and runs at least five years (preferably through Grade 12).

CAL lists a number of other factors of proven importance to the success of a TWI program:

- TWI works best when the partner LOTE is well-represented and -supported. The presence of native-speaker students of both languages creates opportunities for peer learning both in and out of the classroom: a major plus.
- Because of the (usual) dominance of English in the out-of-school environment and the (typical) lower literacy of the LOTE family environment, many TWI programs emphasize the LOTE 90:10 in the first year or two, reduce the ratio to 80:20 in the following two years, and level off at 50:50 for the rest of the program's duration.
- Alternation between languages may go from half-day, to day-by-day, to week-by-week as students' skills increase.

DLE yields educational benefits beyond advanced skill in LOTEs. Not only does DLE not impair students' learning of things other than language, it actually results in heightened achievement in all academic areas for all student groups, regardless of ethnicity, income, language, or disability (even learning disability!) (Thomas & Collier 2013). The reasons for this may turn out to be more a matter of superior curriculum design, instructional energy, student integration, staff selection, family and community involvement, and other factors having nothing directly to do with cognitive or other benefits of bilingualism per se, but they are still worth noting.

5. WHAT HAPPENS AFTER HIGH SCHOOL? If language skills top out in 12th grade or earlier (some TWI programs end as early as 5th grade), we risk seeing those skills remain stunted or even decay for lack of meaningful use in college.

Fewer than 10 percent of college students are enrolled in languages (Furman et al. 2010); the rest are for the most part letting their high-school-level skill shrivel and die. Only a handful of colleges (mostly in the Language Flagship consortium) are developing curricular and other support to graduates of DLE programs so as to sustain and expand upon their linguistic and cultural skills to become bilingual/bicultural college graduates. Remember, though, only 13 percent of doctoral and 6-7 percent of master's and bachelor's IHEs claim to "have one or more professional staff or faculty members dedicated at least half-time" to Languages Across the Curriculum (LAC, LxC) activities.

A growing number of languages across the curriculum initiatives, most notably those introduced under the banner of Cultures and Languages Across the Curriculum (CLAC) by an

expanding consortium of IHEs across the country¹⁴, do offer effective and efficient paths toward the goal of providing opportunities for continued meaningful use of FL skills throughout the college years.

6. CLAC CHANGES EVERYTHING. The Cultures and Languages Across the Curriculum movement is rooted in an informed understanding of the processes whereby students can acquire advanced bilingual and bicultural skills and knowledge and apply these in the mastery of discipline-specific receptive and expressive facility and content mastery. It can involve all students, not just those seeking to achieve full bilinguality. In fact, the varied strengths of the participants fosters peer learning, a proven ingredient in effective education. As shown in the table, which does not begin to exhaust the range of possibilities, CLAC can, and already does, take a wide variety of forms in the postsecondary curriculum, and faculty in every discipline can, and already do, contribute to its success, which in the best cases contributes to the comprehensive internationalization of all students' learning, whatever languages they may know and whether or not they directly participate in CLAC programming.

CLAC's Many Forms

Type	Minimum Lg Proficiency and Use	Who Delivers	Frequency of Meetings	Academic Credit	Examples
Linked	Intermediate-high, FL only	Faculty (FL or FL-fluent non-FL)	3-4 hrs/week	Full (3-4 credits): counts for lg rqmt	St Olaf, U Conn, U Richmond
Modularized (FL trailer to non-FL class)	Typically intermed-low, FL only	FL faculty or FL teaching assistant	1-2 hrs/week (or longer but less often)	Partial (1-2 credits): counts for lg rqmt	Appalachian State, Auburn, Wittenberg U
Immersed (free-standing)	Intermediate-high or higher, FL only	Team-taught by FL and non-FL faculty	3-4 hrs/week	Full (3-4 credits): counts toward lg and non-lg rqmts	Trinity U, Baldwin-Wallace
Infused	Highly variable	Non-FL fac, with FL fac assistance	No separate meetings	No credit	B-W, Earlham
Empowered	Highly variable	Non-FL grad Ss, with non-FL fac approval	12-15 hrs/sem	0-1 credit: counts toward BU minor in Global Studies	Binghamton U, UNC-Chapel Hill
Dual-degree	Endpoint: Advanced-mid	Bilingual faculty (CBLI → CLAC → full immersion abroad in work context)	Better part of 8-10 semesters (including industrial internship)	90-120 credits (half or more taught in FL) of 120-150 required for degree	U of Rhode Island, U Conn, Georgia Tech

The CLAC approach, in combination with authentic but carefully prepared-for educational

¹⁴ The institutional members of the CLAC Consortium following its 7th national meeting held 19-20 September 2013 at the University of Richmond (Virginia) are Auburn University, Baldwin-Wallace College, Binghamton University, Denison University, Drake University, Gettysburg College, Oberlin College, Skidmore College, University of Iowa, University of Minnesota, University of North Carolina-Chapel Hill, University of Richmond, and Wittenberg University (clacconsortium.org/members, accessed 2013-11-07).

experiences with (near-) native interlocutors both at home and abroad, employing long-distance learning technology of various kinds, deserves wide application at all levels of education. It can improve the international dimension of education in all subjects by all students in all schools.

7. CONCLUSION. Bilingual higher education remains more a pipe dream than a reality¹⁵, but the global circumstances, national conditions, and local motivations of the people of the U.S. make it an aspiration worth voicing. The time has never been better, the resources have never been more voluminous, and the mood has never been more favorable.

REFERENCES

- AMERICAN COUNCIL ON EDUCATION. 2012. *Mapping internationalization on U.S. campuses*. 2012 edition. American Council on Education. Online document.
<http://www.acenet.edu/news-room/Documents/MappingInternationalizationonUSCampuses2012-highlights.pdf>
- CALDERÓN, MARGARITA ESPINO, & LILIANA MINAYA-ROWE. 2003. *Designing and implementing two-way bilingual programs: A step-by-step guide for administrators, teachers, and parents*. Thousand Oaks, CA: Corwin Press.
- COLLEGE BOARD. 2008. *College-bound students' interests in study abroad and other international learning activities*. Online document.
http://www.collegeboard.com/prod_downloads/about/news_info/StudentPOLL.pdf
- FURMAN, NELLY, DAVID GOLDBERG, & NATALIA LUSIN. 2010. *Enrollments in languages other than English in United States institutions of higher education, Fall 2009*. Modern Language Association. Online document. http://www.mla.org/pdf/2009_enrollment_survey.pdf
- HAMERS, JOSIANE F., & MICHEL H. A. BLANC. 1983. *Bilinguisme et bilinguisme*. Brussels: Pierre Mardaga Editeur. (Revised and translated in 1989 as *Bilingualism and bilingualism*. Cambridge, U.K.: Cambridge University Press.)
- HOWARD, ELIZABETH R., JULIE SUGARMAN, DONNA CHRISTIAN, KATHRYN J. LINDHOLM-LEARY, & DAVID ROGERS. 2007. *Guiding principles for dual language education*. Second edition. Washington, D.C.: Center for Applied Linguistics.
- MODERN LANGUAGE ASSOCIATION. 2006. *New MLA survey shows significant increases in foreign language study at U.S. colleges and universities*. Online document.
http://www.mla.org/pdf/release11207_ma_feb_update.pdf, accessed 2013-07-27)
- RIFKIN, BENJAMIN. 2005. A ceiling effect in traditional classroom foreign language instruction: Data from Russian. *Modern Language Journal* 89.1:3-18.
<http://www.coh.arizona.edu/classes/ariw/slat596/Rifkin.pdf>, accessed 2013-07-27)
- STATE EDUCATION DEPARTMENT, UNIVERSITY OF THE STATE OF NEW YORK. 2007. *Part 154: Services for Pupils with Limited English Proficiency*. NYSED. Online document.
http://p1232.nysed.gov/biling/bilinged/documents/PART154RegAmendment8-2007Final_1.pdf
- STRAIGHT, H. STEPHEN. 2008. "But where does that leave French?" *InsideHigherEd*, 5 May, <http://www.insidehighered.com/views/2008/05/05/straight>.

¹⁵ Not only in the U.S. but throughout the world, but that's the topic of a different paper.

- . 2009. The role of FL [foreign language] departments [in curricular internationalization]: Enabling and fostering ubiquitous use of languages. *Modern Language Journal* 93.4:624-27.
- THOMAS, WAYNE P., & VIRGINIA P. COLLIER. 2013. *Dual language education for a transformed world*. Albuquerque, NM: Fuente Press. [Fuente Press is the publishing house for Dual Language Education of New Mexico.]

HSS, 2015-01-09

This article was first published at lacus.weebly.com.





TOWARDS AN EMBODIED LINGUISTICS: THREE HIATUSES

LUCAS VAN BUUREN

University of Amsterdam (retired) / Linguavox, Bloemendaal

Abstract: Echoing Henry Sweet (1877: preface), this article maintains that *embodied* rhythmetics, phonetics, mimetics and the intimate relations between them, at present virtually absent in mainstream linguistics and theories of language evolution, are “the indispensable foundation” of the study of language and its origins.

Keywords: form-meaning, distinctive-redundant, mimetics, rhythmetics, phonetics, human virtuosity, function and evolution.

Languages: English, Dutch, German, French, Chinese, Indian.

1. EMBODIMENT. If dogs were bipedal with hands, smell, colour, vision and beautiful voices like us, their world, their brains and their ways of communicating would undoubtedly be very much more like ours than they are. The idea of ‘embodiment’, holding that both the human mind and human activity (including language) are crucially determined by the anatomy and physiology of the body, is fairly recent in philosophy, psychology and linguistics. Its emergence is often ascribed to robotics expert Rodney Brooks (2002) who noted that action and behaviour are more relevant to ‘artificial intelligence’ than computational power.

As for linguistic embodiment, the human brain appears to have an intermediate and dual role: it is both the product –in a vicious circle kind of way– of non-cerebral bodily activity and at the same time, itself being part of the body, a co-determiner of linguistic and other cognitive processes. Bodily activity, especially vocalizing, but also non-vocal gesturing, rhythmicising, timing and the associated neural processes may be said to be the ‘substance’ of language, its ‘form’ being the abstract structures and relationships observable in the outputs. Ever since De Saussure (1916: 27) ‘mainstream’ linguistics has however regarded all ‘substance’ that is ‘redundant’ to the system as such, like the shape or material of the pieces in chess, as irrelevant to ‘form’ in language, thereby rejecting Sweet’s (1877) insistence on “the importance of phonetics as the indispensable foundation of all study of language.”

With the emergence of ‘cognitive’ grammar in recent years, especially of Lamb’s (1999) ‘neuro-cognitive linguistics’, substance, and thereby embodiment, appears to be making a comeback. Some very recent work on (non-vocal) gesturing (e.g. McNeill, 2012) emphasizes the indispensability of ‘mimetics’ in linguistic study, as Sweet did for phonetics. But so far, there is hardly any sign of embodied (as opposed to disembodied) phonetics receiving any attention again from linguists, and the study of human bodily rhythms or ‘rhythmetics’ virtually remains *terra incognita*.

2. THE FUNCTIONS OR MEANINGS OF LANGUAGE. Halliday (1975, and later work) distinguishes three linguistic functions, with characteristics –as I see it– as follows.

The *(inter)personal function* conveys a speaker's attitudes and commitments while also testing and influencing those of the addressee(s). This is, I think, the oldest and most basic one, between baby and mother, later in omnipresent chit-chat and phatic communion. Evolutionarily, it seems to be a direct development of primate grooming and thereby also of pre- or proto-linguistic communication, diadically and tribally. Its extreme exploitation as *rhetoric* may well go back to those pre-linguistic days.

The *(con)textual function* of language seems essentially one of directly or indirectly *pointing* at elements in the context or (e.g. by pronouns) in the preceding discourse, which is thereby (helped to be) given structure. At the most elementary level it seems a matter of pointing with the hand, eyes and/or voice and one wonders if it may perhaps go back to earlier touching, grasping and choosing. Note that dogs and dolphins understand human pointing, but chimpanzees, it is said, do not; therefore, *pointing* could be a crucial element in the genesis of language.

The *ideational function* of language, sometimes referred to as representational or experiential, is to make sense of our experience of the world, i.e. the processes and objects surrounding us. It seems fundamentally different from the other two functions in requiring *symbolism*, and thereby a third stratum, lexicogrammar, between substance and meaning. All animals, in order to survive, must make sense of their experiences by memorising, generalising, conceptualising, which is what brains are for. Hominids (perhaps babies 'babbling' to mothers) took a crucial step further by devising names, i.e. vocal *symbols*, for some of the concepts involved, and ultimately expanding this into symbolic representations of their experience. Most modern linguistics other than Halliday's confines itself to this symbolic function of language, to the exclusion of the other two. Although understandable, this seriously misrepresents the genesis and nature of language.

3. INTIMATE CONNECTION BETWEEN EMBODIED RHYTHMICITY, VOCALISING AND (NON-VOCAL) GESTURING. This may be illustrated with a simple example from Dutch and some comparable (British) English material. Dutch spelling makes a rather interesting distinction between the personal pronouns *jij, zij, hij, wij, mij* (jEi < zEi < hEi < wEi < mEi – you, she, he, we, me), and their weak forms *je, ze, 'ie, we, me* (j, < z, < i < w, < m, – you, she, he, we, me). Equivalent German pronouns *sie, er, wir, mich* have only one written form each, as do English *you, she, he, we, me*, at least in standard orthography.

Talking with a young Dutchman over coffee once he asked me rather surreptitiously:

(i) hu ʰheet|_zEi_≠ (*hoe heet zij?* – how 'names' she = what's hername?)

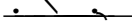
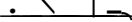



while *pointing* on the word zEi with his thumb, head, eye-movements, eyebrows... at the pretty young lady behind him. Quite appropriately, he did not point directly at the girl of his fancy with 'normal' outstretched arm and index-finger. That would have been extremely rude and counterproductive. But *pointing* at her he did and not only with his gestures, but also rhythmically and vocally. Note that he did *not* say:

(ii) hu ʰheet zə_≠ (*hoe heet ze?* – how 'names' she = what's hername?)

That would have meant that the girl in question was 'given' in the context, having already been mentioned before, rather than introduced or specified, so there would be *no* pointing at her with the hand, the voice or otherwise. The substantial-embodied differences between (i) and (ii) are

indicated in my phonetic transcriptions. In (i) the personal pronoun constitutes a separate rhythm group taking a strong rhythmic beat or stress S – not a pitch or tonic accent T, mind you, like the ‘high fall’ in *heet*. In (ii) the personal pronoun is *unstressed* like the word *hu*, and part of a single rhythm group. A single rhythm group means one neurocognitive gesture or ‘thought’, two rhythm groups, as in (i), means two thoughts, here building up into one ‘idea’. An S-word means: referent pointed at or specified; a u-word means: referent given. An S-word/syllable is generally given more *time* than u-words/syllables and is always *reinforced* by face-eye-hand... movements, however slight. To convince one- self of this the reader might try talking like a Dalek for a minute, gazing at a single point away from his/her listener. Besides rhythmicity and (non-vocal) gesturing our young Dutch romeo also had to control vowel-quality to ask what he wanted to know, and these three embodied activities are clearly intimately connected.

I give this Dutch example because my argument is, unusually, nicely supported by official spelling. But the same rhythmic-vocal-gestural phenomena are, I suggest, universal even if rarely indicated in writing. A few more simple examples must here suffice, starting with a comparable *I like her*, if my interlocutor had been English. The examples A and B in (iii) below indicate that the pronoun ‘her’ in (British) English undergoes similar treatment as ‘zij/ze’ in Dutch, rhythmically, timing wise, mimetically, and phonetically by h-presence/absence. C, D and E are exactly like B but with a pitch-jump or tonic *and* a corresponding (non-vocal) gesture added to the rhythmic beat on the pronoun. The dots-and-dashes notation serves to ‘explain’ the rhythmic and intonational symbols in my transcriptions. Below that is a summary of the mimetics, rhythmetics and phonetics on the pronoun, showing their close correspondences, and finally an indication of their functions or meanings:

(iii)	A		B	
	hu ˈheet zə ˌ // aɪ ˈlaɪk ʒ ˌ // 		hu ˈheet ˌzeɪ ˌ // aɪ ˈlaɪk ˌhʒɜː ˌ // 	
mimetics:	no gesture on pronoun		pointing during pronoun	
rhythmics:	pronoun u-stressed, shortish		pronoun S-stressed, longish	
phonetics:	vowel reduction/ h -omission		full vowel / whisper during h	
function/meaning:	textual, referent ‘given’		contextual, referentspecified	
	C		D	
	hu ˈheet ˌzeɪ ˌ // aɪ ˈlaɪk ˌhʒɜː ˌ // 		hu ˈheet ˌzeɪ ˌ // aɪ ˈlaɪk ˌhʒɜː ˌ // 	
mimetics e.g.	hand slice-down		offering, palms up on pron	
phonetics	+tone: upjump&fall		-tone: downjump	
meaning	committed choice		obvious choice of referent	
	E			
	hu ˈheet ˌzeɪ ˌ // aɪ ˈlaɪk ˌhʒɜː ˌ // 			
	shrug: shoulders, hands			
	=tone: upjump only			
	uncommitted, equivalent ch.			

Note that all the phrases in (iii) have been given an F(alling) tune, indicated by the ‘downturn’ at the end. By simply replacing this with an equally slight ‘upturn’, as in (i) and (ii), an R(ising) tune will be indicated. F means: neurocognitive blocking of other ideas, i.e. finality, R means: no such blocking. This meaning difference is often most distinct in combination with an =tone as in: ju ˈlaɪk| ˌhʒɜː ≠ (surprised question: of all people?) versus ˌjɛɛ ≠ aɪ ˈlaɪk| ˌhʒɜː ≠ (just to mention someone).

The more relevant point about (iii), however, is the addition of a pitch-jump to the S beat on the pronoun. thereby making the S-word a T-word. The meaning of T(onic) is: not just pointing at or specifying the referent, but *choosing* it (‘her’, in this case) thereby rejecting alternatives, in

other words: *contrast* or *new*. This is typically accompanied by thrusting or slicing, offering/begging or upward, shrugging movements of the hands, head and other body parts, notably also by speakers of tone-languages like Chinese, where pitch jumping is, naturally, somewhat restricted outside its ideational (lexical) function. The three options plus, minus and equal (+, −, =) here given for English and Dutch are very widespread if not universal in intonation languages and appear to have counterparts also in tone-languages. This is not surprising perhaps considering that functions like commitment/agreement/non-commitment are clearly attitudinal or interpersonal and therefore go back even further in evolution than the more discourse-like, contextual function of tonicity or contrast.

The rhythmic-phonetic-mimetic examples given so far all show direct links between substance and meaning and do not seem to require an intermediate symbolic or lexico- grammatical stratum. More detailed discussion in Van Buuren (2004: 142ff)

4. VOCAL VERTUOSITY AND EMBODIED PHONETICS. A string of eight words like

(iv) what was that he was saying just now

tends to be seen in mainstream linguistics as one single sentence with the ‘nuclear stress’, if any, automatically assigned to the rightmost (sic!) word, perhaps even ‘contrastively’ to a word further to the left. The wording, if nothing else, suggests that sentences are regarded as visible objects rather than embodied audible processes. So such linguistics deals with written rather than spoken language. Vocal variety or virtuosity are then irrelevant, 12 or 15 ‘distinctive features’ being all that is required. The disembodiment of modern linguistics may be a consequence of the Saussurean split into so-called distinctive and redundant ‘substance’ or perhaps also of computer-programming approaches.

Any linguist trained in an earlier, embodied, descriptive, L2-teaching tradition can think of and demonstrate hundreds of *different* sentences, all with *different* meanings, employing the same string of eight words. Indeed, thanks to his vocal virtuosity, any pursuing the prosodic story in the last section, the eight words could be grouped into four rhythm-groups, like this: *ˈwɒt| wəz ˌðæt| i wəz ˌseɪɪŋ| dʒʌst ˌnaʊ* ♯ or any other number between 1 and 8 (total $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 40.000+$). Each could be Tonic (choosing) or non-tonic Stressed only (pointing), making $80.000+$. The whole phrase (if not divided into valuable in social grooming and behaviour and therefore a good Darwinian reason for shorter phrases) could be F (finality) or R (non-finality), making $160.000+$. Each T- word could be +committed, −obvious, =uncommitted, and so on, all this requiring fantastic rhythmic and vocal, especially melodic virtuosity.

But that is not all: human beings are also wizards at producing numerous voice qualities such as library, bedroom, funeral or schoolmaster’s voice, to show or pretend anger, aggression, confidentiality, impatience, friendliness, love, amusement, sympathy, intimacy, gentleness... Conscious manipulation of such voice-qualities is vocal evolution from the earliest stages of our species.

We are also brilliant at accents, especially our own but also when imitating (not necessarily convincingly), for instance English with a French, German, Indian or New York accent, speaking in a childish or old man’s voice, impersonating Inspector Clouseau, Maggie Thatcher, Barack Obama, Popeye, Kermit the Frog or Donald Duck. Most people can do at least a few such imitations/impersonations, some are very good at it. Children, street-sellers, actors and singers like Cathy Berbarian, Al Jarreau, Bobby MacFerrin, Louis Armstrong, Dietrich Fischer-Diskau, Maria

Callas, Umm Kulthum, Bhimsen Joshi, Mick Jagger further testify to the incredible variety and virtuosity the human voice is capable of. The most amazing thing however, to my mind, is that even very young children can be recognised by their accent: Amsterdam vs Haarlem, North London vs South London, only a few miles apart, and differing in extremely subtle ways. Again, this presupposes unbelievable vocal virtuosity and learning ability. It seems to me, therefore, that tribal loyalty, fear of exclusion, coupled with xenophobia and hostility towards ‘them’ was perhaps the major driving force behind our unique vocal abilities.

Strangely enough, embodied phonetics, still flourishing in Sweet’s days and the century after that, has almost disappeared from linguistics and, for that matter, from ‘mainstream’ (instrumental) phonetics. I personally feel that the discontinuation of the IPA journal *læ metrə fonetik* in 1970 was the final blow, as it stopped linguists and phoneticians from writing in phonetic transcription. History repeating itself? Just as embodied Indian phonetics went under shortly after its heyday 2,500 years ago, its 19th century revival now seems to be heading the same way. One hopes that this process may still be reversed.

One thing –generally ignored or denied– should be made perfectly clear. Modern embodied phonetics has developed since the days of Henry Sweet, Paul Passy, Otto Jespersen and others to a level where *any* feature of vocalisation can now be analysed and described quite precisely. Much of this resulted from the work and teaching of Daniel Jones, Kenneth Pike, David Abercrombie and others, but mostly from that of Ian Catford, last century’s major contributor to embodied phonetics. See his *Practical Introduction to Phonetics* (1988, 2nd ed 2011). My own modest contribution since then includes an exhaustive-not-eclectic and parametric-not-segmental description of English pronunciation and a theory of human rhythmicality. For more details see www.linguavox.nl.

5. NATURE, FUNCTION AND ORIGIN OF RHYTHMICITY. I may perhaps be forgiven for repeating three ‘readings’ from Kipling’s poem *Mandalay*, discussed with audio recordings and corresponding intensity tracings in Van Buuren (2012, 2013):

- (v) 'For the|'wind is| 'in the| 'palm-trees| 'and the| 'temple| 'bells they| 'say# '
Come you| 'back you| 'British| 'soldier| 'come you| 'back to| 'Manda| 'lay#
- (vi) ,For the# 'wind is| ,in the# 'palm-trees| ,and the# 'temple| ,bells they# 'say #
- (vii) .For| the 'wind| is .in| the 'palm# ,trees# .and| the 'temple# ,bells| they 'say# ,
Come you# 'back| you 'British| 'soldier# ,come you# 'back| to ,Man#da'lay#

Verse is generally in lines of three, four or five metric ‘feet’: *TRO*chees (– ◡), *i*_{AMBS} (◡ –), *DACT*yl (– ◡ ◡), *am*_{PHI}brachs (◡ – ◡) or *ana*_{PAESTS} (◡ ◡ –), often interspersed with *MONE*s(–). Keeping rhythm carefully apart from melody one may read (v) on a monotone, in standard *TRO*chees (and one *MONE*), while tapping on the S(trong) syllables. The taps will be isochronous. There are two degrees of rhythmic stress, S(trong) and u(nstressed); the foot-division is mechanical, i.e. not into *meaningful* units.

But Kipling clearly intended these lines to be read in a quite unusual ‘dipodic’ metre. as in (vi). Each line then consists of four *i*_{AMBS}, each consisting of two *TRO*chees. This two- tiered rhythmic hierarchy yields three degrees of stress: S, M(edium) and u. If one reads these lines, preferably still on a monotone, while tapping on the S’s with the right hand and on the M-syllables with the

left hand, isochrony between the S's –but not quite between S's and M's!– is still maintained.

Such hierachical rhythmic organisation is in fact familiar from music. Cooper and Meyer (1960) shows how for instance a 4/4 musical measure can be sub-divided into two halves, with an S on the first, an M on the third, and u's on the second and fourth beats. Each half may be further divided into quarters, eighths, sixteenths and so on, multi-tiered hierachies with as many-plus-one degrees of beat or accent.

On paper, or if played mechanically by a computer or barrel-organ, there is perfect isochrony between the accents. But as argued by Cooper & Meyer, any self-respecting musician will want to put some *meaning* into his performance by grouping notes that belong together and separating those that do not, thereby dismissing isochrony.

So when it comes to putting some *meaning* into the Kipling lines, any self-respecting performer, or reader, or linguist even, will also dismiss isochrony (and the single tier organisation that implies) as no more than useful inventions for communal dancing and singing, to (inter)personally express himself with a reading like (vii).

Then, as can be seen, the text is no longer divided mechanically into feet and sub-feet, but into *meaningful* (except intra-word: ,Man'da'lay) rhythmic groupings and sub- groupings, for which I use the term 'byte' rather than 'foot'. We talk in bytes and pieces. One sees here a three-tiered rhythmic hierarchy with four degrees of stress: S(trong), M(edium), w(eak) and z(ero), the latter unmarked in the text. Primary, secondary and tertiary byte-divisions are shown by | , # , | respectively. Also note one would use weak forms .fə , .ənd in (vii). More discussion in my articles mentioned.

Some unstressed syllables are obviously less unstressed than other unstressed syllables, hence our sub-division of u into w(eak) and z(ero). This appears from (vii), but even more clearly from (British) English *how uncomfortable that there was a commemoration*– .haʊ ʌn'kʌmfətə.bəl ðæt ðə .wəz ə kə'memə'reɪʃn. Cf. un-English* .haʊ ʌn'kʌmfə.təbəl ðæt.ðə wəz ə kə'memə'reɪʃn. It is impossible to have z-stresses on all the eight consecutive shwa-syllables, although again for reasons of *meaning* one could decide to have the w on *there* instead of *was*. There is a Rhythmic Alternation Principle RAP at work here, saying: no more than two weaker between stronger syllables, and no more than one before or after pause. Compare also *educational* – ,edju'keɪʃn.nəl with *educationally* – ,edju'keɪʃnəl.li < where the w-stress on the same syllable would again result in an un- English rhythm.

A three-tier rhythmic hierarchy with four degrees of beat or stress (not to be confused with 'prominence', melodic or otherwise!) is normal in English and many other languages, even, to judge by their mimetics, tone-languages. But this also seems the limit of its complexity. Even though musicians, especially drummers, are capable of far more complex hierarchies and stress gradations, I have not found any in language. Therefore, one may feel justified in postulating a three-tiered rhythmical hierarchy with four degrees of beat or stress as a linguistic universal.

Unlike in musicology, the concept of 'rhythm' is rarely used or even mentioned in linguistics, stress being widely regarded as a physical object that one can move about between syllables. Much work has been and is being done on 'word-stress', i.e. where the position of the S has a lexical or ideational function, but next to nothing on 'sentence- stress'. In that context most debate has been, ever since Joshua Steele (1775), on the pseudo-problem (in my view) of syllabic versus stress isochrony.

Our rhythmic control or 'rhythmicality' seems no less amazing than our vocal virtuosity. Again, without it, language clearly could not function or even have come into existence. Cf. William Benzon (2001: 20ff) who writes: "For all the time and effort that has been expended on the matter

of apes and language, here we have a simple, largely overlooked behavior that humans exhibit easily and routinely from birth and that seems utterly beyond our primate relatives.” One wonders indeed why mainstream linguistics insists on ‘overlooking’ the most essential features of speech. Cf. also Van Leeuwen (1999: 126).

As I have written before, there seems some consensus in the literature on language evolution that it evolved out of the ‘rhythmicity’ of communal dancing and chanting. This idea makes sense, as it would also help to explain the existence of that other mysterious human phenomenon: music. The only trouble with it is that it takes ‘rhythmicity’ for granted, leaving it unexplained. Of course, it presupposes a (degree of) rhythmicity in proto-linguistic hominids that other primates do not have, and this requires explanation.

The most likely scenario for the prior evolution of rhythmic control I can think of is the grouping and (ultimately hierarchical) organisation of bodily (!) movements after bipedalism and the freeing of the forelegs for new purposes. This would apply to all sorts of activities such as playing and toolmaking, but most of all perhaps to that other strange human ability, even now confined to a chosen few: swimming (as opposed to drowning). In short, while wading and foraging in wetlands some of our early ancestors may have experimented with the numerous swimstrokes known today, such as the dog-paddle and chest-crawl. The latter, apparently ‘invented’ by native Americans, requires complex (duple and triple) rhythmic hierarchies like: 6x legs in 2x arms in 1x head/breathing movements. Continued on dry land, this would be dancing, and one can well imagine adding some vocal gestures and others joining in.

Perhaps I may conclude this section with my earlier definition of rhythmicity: the (human) ability to ‘RAP’ bodily movements within one’s span of consciousness into (hierarchies of) TROCHEES, (+)DACTYLI, (+)AMPHIBRACHS(+), IAMBES, ANAPAESTS(+) and/or MONES. The pluses stand for extra syllables to allow for patterns like zSzz=S= zzSzz=S=zzSz=, still in agreement with ‘grouping by the RAP principle’.

6. GESTURE, OR UNSCRAMBLING AN EGG. The International Phonetic Association (IPA) was founded in 1886, the International Society for Gesture Studies (ISGS) only in 2002. Gesture studies is still in its infancy and indeed unfamiliar to most linguists including the present writer. I therefore restrict myself to a few remarks supporting its integration, together with embodied phonetics and rhythmetics into linguistics and especially into language evolution theory. There seems no doubt about its relevance to both fields of study.

The term ‘gesture’ is generally –perhaps confusingly– restricted to visible, non- vocal gesturing, as if it had nothing to do with audible, vocal gesturing. The latter is better known as vocalising. One consequence of this is the sometimes heated debates about which came first in the evolution of language, another that people working in phonetics and mimetics tend to be unaware of each other’s work. An awareness of the fact that vocal and non-vocal gesturing are inseparably connected, emanating from the same motor centre in the same human body, while also clearly distinguishing between phonetics and mimetics might help to clear the air a little. I should add that considering the connotations of ‘mimetician’ or ‘the mimetic association’ a term like ‘mimetics’ is perhaps also less than satisfactory.

One (excusez le mot) mimetician who is well aware of the connection with phonetics and who is indeed working on ‘movement notation systems’ parallel to phonetic notation is Brenda Farnell. See Farnell (2004) for references and also for its excellent (freely downloadable) survey of gesture studies, past and present.

A very recent book entitled *How Language Began* by a leading authority on mimetics (McNeill, 2012), proposes (on the blurb) “a ground-breaking theory of the evolution of language which

explains how speech and gesture became unified.” Although mostly sympathetic to the idea, I found this ‘state of the art’ publication unconvincing and uninformative. It still seems to lack a clear system of describing non-vocal gestures comparable to that in phonetics. My main difficulty, however, is that all the gestures discussed appear to have an *ideational* function. Largely to do with a cat climbing up and falling down inside a hollow pipe, they are associated with particular words or combinations, like: (cat) climbing up, inside, drain-pipe, ball, thrown, down, hitting cat, swallow ball. Like ideational speech, these gestures seem far more recent evolutionarily than the interpersonal and contextual ones.

The modern mobile phone phenomenon is rather instructive in this respect. Some of its users I know often make ‘telephoning gestures’ (little finger to mouth, thumb to ear) to me, presumably unknown to earlier homines sapientes. At the same time, they also persist in making gestures that very early hominids did understand, even to invisible people on the other side of the line – as do blind people, actually, and people talking on radio. How strange! And how fascinating! In short, I think one of the first things to do in mimetics is to ‘peel off’ ideational gesturing and see what remains. To set this ball rolling I have therefore attempted to tell the following simple ‘story’ *How To Scramble An Egg* – by LvB first with interpersonal, then with contextual and finally with ideational gesturing, indeed –it occurred to me afterwards– trying to *unscramble* gesturing into its different functions. The reader is invited to carry out the same or a comparable experiment. He or she may then find, as I did, that contextual gesturing requires, for instance, pointing and bringing together of hands or fingers but hardly any eye movement. In interpersonal gesturing, however, eye and facial movement seems crucial, with or without such manual gestures as described under C, D, E in example (ii) above. I hope to put a Quicktime movie of my performance on YouTube – until then the pilot movie may be seen on www.linguavox.nl. Here is my film-script:

Put a small pan on low gas. Pour in some olive oil. Take an egg. Get a bowl and a knife. Cleave the egg over the bowl. Add a drop of milk and stir. Sprinkle some salt over it. Pour the mixture into the pan. Keep stirring till it sets. Then turn off the gas.

REFERENCES

- BENSON, WILLIAM. E 2001. *Beethoven's Anvil*. New York. Basic Books.
- BROOKS, RODNEY. 2002. *Robot: The Future of Flesh and Machines*. London. Penguin Press.
- CATFORD, IAN C. 1988 [2011]. *Practical Introduction to Phonetics*. Oxford U.P.
- COOPER, GROSVENOR & MEYER, LEONARD B. 1960. *The Rhythmic Structure of Music*. University of Chicago Press.
- DE SAUSSURE, FERDINAND. 1916. *Cours de linguistique générale*. Lausanne, Paris. Payot.
- FARNELL, BRENDA. 2004. Review of David McNeill (ed.) *Language and Gesture*. 2000, in: *Anthropological Linguistics* 46/1, pp 100-115. Also on http://jashm.press.illinois.edu/13.4/13-4Review_Farnell239-252.pdf
- HALLIDAY, MICHAEL A. K. 1975. *Learning How to Mean*. London. Edward Arnold.
- KEIJSPER, CORNELIA E. 1985. *Information Structure*. Amsterdam. Rodopi.
- LAMB, SYDNEY M. 1999. *Pathways of the Brain*. Amsterdam. Benjamins.
- MCNEIL, DAVID. C. 2012. *How Language Began*. Cambridge U.P.
- STEELE, JOSHUA. 1775. *Essay towards Establishing the Melody and Measure of Speech*. London. J. Almon.

- SWEET, HENRY. 1877. *A Handbook of Phonetics*. Oxford U.P.
- VAN BUUREN, LUCAS. 1993. *English Phonetics Course (for Dutch speaking students)*. Bloemendaal. Gemini Publications. pdf on www.linguavox.nl.
- . 2004. Rhythm and intonation considered neurocognitively. *LACUS forum* 30:137-146. lacus.org/volumes/30/301_vanBuurenLucas.pdf
- . 2005. On timing and rhythm – in British English. *LACUS forum* 31:113-123. http://www.lacus.org/volumes/31/vanBuuren_1.pdf
- . 2012. Rhythmicality - precondition to language (to appear in *LACUS forum* 39). Prepublication on <http://www.linguavox.nl>.
- . 2013. Rhythm, rhythmicity, rhythmicality. Paper presented to Nederlandse Vereniging Taalwetenschap. Published on <http://www.linguavox.nl>.
- VAN LEEUWEN, THEO. 1999. *Speech, Music, Sound*. London. MacMillan.

This article was first published at lacus.weebly.com.





THE POWER OF THE INDEFINITE ARTICLE

LESZEK BEREZOWSKI
Wrocław University

Abstract. Ordinal numerals are among the most typical clues inviting the use of the definite article. However, there are several contexts in which ordinals are commonly used with the indefinite article and this paper investigates the rationale behind such usages, drawing on data culled from the Corpus of Contemporary American English. In the process it is shown that the pattern is rooted in the interplay between the meaning of the indefinite article independently established in earlier publications on indefiniteness and inferences triggered by the use of ordinal numerals, which ultimately gives speakers a powerful device to express a number of viewpoints.

Keywords: reference, pragmatics, definiteness, indefinite article, ordinal numerals.

ANY GRAMMAR OF ENGLISH lists ordinal numerals as textbook examples of items that are commonly used with the definite article and in any language corpus there are thousands of examples that clearly illustrate such self-evident statements. For instance, in the 450 million word Corpus of Contemporary American English (Davies 2008, hereafter COCA), there are as many as 213,084 nominals in which the ordinal is preceded by the definite article, e.g.:

- (1) Baylor didn't find much rhythm until the *second* half when it used Brady Heslip's 3-pointer to cut Kentucky's lead to 63-50 with 8:53 remaining.

However, ordinal numerals found in statements reporting that an incumbent intends to run for reelection belie the generality of that trend and are indefinite, no matter which term in office is at stake, e.g.:

- (2) New York City Mayor Michael Bloomberg says he is ready to run for *a* second term.
- (3) If he were to seek *a* 10th term this fall, Stupak said, the outcome would never be in doubt. "Every time I vote, someone gets mad at me," he said. "But when it comes to November, they always vote for me."

In fact indefinite ordinals are found in all 67 COCA examples in which incumbents are reported to run for another numbered term in office and in all 64 examples in which they seek one, while

definite ordinals are not used even a single time in any of these two contexts.

The goal of this paper is to account for the difference noted above and then show on a broader basis that the use of indefinite ordinals serves to express a point of view reflecting a key aspect of the meaning of the indefinite article. The argument will thus start with a brief review of the standard accounts of the indefinite and definite articles and then proceed to applying them to analyzing indefinite ordinal examples retrieved from COCA.

Ever since the publication of Hawkins (1978) it has been generally agreed that the key ingredient of the meaning carried by the indefinite article is exclusive reference. The concept was further refined in a number of publications, e.g. Declerck (1986), Hawkins (1991) or Berezowski (2009), but its essence boils down to a simple inference drawn from article use in examples like (4) below:

- (4) *An* Air Canada flight bound for Tokyo had to make *an* emergency landing today when *an* engine shut down just after it took off in Toronto. There are reports that small pieces of metal debris—possibly from the engine—fell from the plane and smashed through *a* car window. Nobody was hurt on the ground and the plane landed safely after dumping fuel.

The news that an engine failed in flight sounds perilous, but the fact that the plane managed to turn back to the airport and land safely naturally invites the inference that it must have been equipped with more engines than the one actually referred to in (4) and any such conclusion is obviously strengthened by the common knowledge that long distance commercial flights, e.g. from Toronto to Tokyo, are usually operated by aircraft with two or more engines. The engine referred to by the indefinite singular nominal in (4) may thus be safely taken to be a member of a set related to the situation at hand and including other items of the same kind which remain implicit and happen not to be referred to.

In (4) the existence of surplus implicit members in the set including the referent of an indefinite nominal is only implied, but it is quite easy to find examples in which they are explicitly mentioned, e.g.:

- (5) *An* impeller blew and *an* engine shut down later that night, when he was well past the point where he would have turned into the Charleston approach. He turned back and was limping in with *a* high anxiety level when the other engine overheated. He ended up at the end of *a* tow line.

This time around the referent of the indefinite nominal is a boat engine and, as noted above, the use of the indefinite article should be taken to imply that the boat has at least one more engine onboard. At first this supposition is confirmed indirectly by the information that the failure of an engine slowed the boat down but did not stop her, and then directly in sentence two, where the other engine is explicitly referred to in the context of its overheating.

Thus the referent of an indefinite singular nominal always belongs to a contextually salient set featuring at least two members. One of them is actually referred to while the rest of the set is excluded, which prompted Hawkins (1978) to call that property exclusive reference. Since either the hearer alone or both the speaker and the hearer do not have enough information to work out which set member is actually referred to and which one or ones is or are excluded, any such reference is truly indefinite. If only the hearer is in the dark as to the identity of the intended

referent, the reference has traditionally been called specific, and whenever both the speaker and the hearer are clueless about referent identity, the reference has been termed non-specific, but in either case all potential referents are similar enough in that they do not stand out from the crowd in a way which could make any of them uniquely identifiable to all interlocutors.

The basic ingredients of the meaning carried by the definite article are more difficult to summarize, as the scholars investigating its properties have produced quite divergent descriptions (cf. Birner and Ward (1994) or Berezowski (2001) for a review), but for the purpose at hand it will suffice to assume after the mainstream accounts in Kadmon (1990) and Hawkins (1991) that it is grammatical to use the definite article with a nominal if the referent of that nominal can be uniquely identified by the speaker and hearer alike.

Given that assumption it is easy to see why the definite article so frequently patterns with ordinal numerals. Since they are commonly used to sort sets, e.g. quarters of a year, innings of a baseball game, terms served in office, etc. by assigning each set member a unique numerical value in an ascending order, each member of such an ordered set can then be uniquely identified and qualifies for preceding it with the definite article. For example:

- (6) Unfortunately, Terry was birdieing and eagling. My heart sank like Enron stock when he drove 275 yards off the tenth tee.

The author invokes the set of tees on a golf course and within that set refers with some trepidation to the item assigned number 10, which makes it uniquely identifiable and calls for the use of the definite article. What is crucial, though, sorting set members with the help of ordinal numerals also provides the basis for drawing inferences that go beyond furnishing grounds for the use of the definite article. For example, the number assigned to the tee referred to in (6) lets the reader infer not only the unique status of the referent but also where the golfers are in the game (just past the midpoint), how many tees are still left (eight), etc.

Any such surplus inferences may be as harmless as in (6), but they are unavoidable and need not be gentlemanly, e.g.:

- (7) MITT ROMNEY: We've seen this president trying to browbeat the Supreme Court. In the second term, he would remake it. Our freedoms would be in the hands of an Obama court. Not just for four years, but for the next 40. And we must not let that happen.

Speaking in the run-up to the 2012 US presidential election Romney first referred obliquely to the term his opponent had actually served in the White House and then directly to the one that would follow if Obama stayed in office, assigning the latter term number two and referring to it as the second one. However, the activities predicated of the incumbent in both terms, i.e. first cowing Supreme Court justices and then replacing at least some of them, show an increase in their detrimental consequences, which prompts the inference that the terms are not only ordered in sequence but also ranked on a scale of national calamity, leaving the hearers with the impression that term two is not only higher in number than term one but also later in time and more disastrous in its quality. In other words the hearers may be led to infer that the later a term comes, the worse it gets to be.

Since any such ranking inferences arise as a byproduct of using ordinal numerals to sort set members, any person who would like to make sure that they do not ever arise could simply ditch

ordinals altogether. Doing so would, however, deprive statements like (7) of much of their informational value, as it would make it difficult for the hearers to work out which term is actually referred to. What is needed then is a solution which keeps ordinals in use to make sure that set members are numbered but, at the same time, leaves no doubt that they are not ordered in any way.

The best and easiest way to accomplish that is to replace definite ordinals with indefinite ones, as exemplified in (2) and (3) above, repeated for the sake of convenience as (8) and (9) below:

- (8) New York City Mayor Michael Bloomberg says he is ready to run for *a* second term.
- (9) If he were to seek *a* 10th term this fall, Stupak said, the outcome would never be in doubt. “Every time I vote, someone gets mad at me,” he said. “But when it comes to November, they always vote for me.”

For one thing, the use of the indefinite article implies that the intended referent belongs to a contextually salient set with two or more members, which offers enough room to accommodate the sets designated in (8) and (9), i.e. the sets of two and ten terms in office, respectively. What is more important, though, the use of the indefinite article implies also that the members of any such sets are similar enough not to be uniquely identifiable, which means that the set is unsorted and cannot give rise to any ranking inferences that might accompany ordering set members. Instead of defining the unique position of a set member in an ascending order, the ordinal numerals used in (8) and (9) merely specify how many members the sets in question will have if the referents of the subject nominals are successful in implementing their plans.

Given this scenario it is no mystery why indefinite ordinals are as popular in statements on running for or seeking another term in office, as noted at the outset of this paper. They offer almost as much information as their potential counterparts with definite ordinals but guarantee that the statements do not give rise to ranking inferences which could be harmful to the incumbents and troublesome to their campaign managers, as illustrated in (7) above.

However, politicians are not the only language users who are interested in using ordinals without inviting any ranking inferences. The same is the case with scholars and journalists adducing arguments in support of a claim, e.g.:

- (10) First, the threat we were to defend against was always *an* “all-out nuclear attack.” With or without shelters, *a* war with retaliatory exchanges and *a* blizzard of missiles descending on the U.S. mainland could not be survived; the cliché was that “the living would envy the dead.” *A* second argument, much touted, was that civil defense would “destabilize” the strategy of deterrence. If one side had shelters, it might be encouraged to think that it could “win” *a* nuclear war. Civil defense would thus diminish our security, by making war more “thinkable.” *A* third argument was that civil defense would only distract us from detente and arms control, in favor of “ludicrous mopping up plans for the post-attack era,” as The New York Times (with *a* very different editorial policy than today’s) put it in the 1980s. *A* fourth argument was directed against the urban evacuation proposals that were part of both early (1950s) and late (1980s) civil defense planning.

Switching to definite ordinals in any passage like this could easily be taken to imply that the later an argument is advanced, the less persuasive it is, i.e. that the second one in sequence will be taken

to be a second class argument, the third one to be a third class argument, etc., while the use of indefinite ordinals does not give rise to any such ranking inferences. Indefinite referents, as shown in Gundel, Hedberg & Zacharski (1993) are type identifiable only, which means that all that is intended to be known about them is the category or set they belong to. Otherwise they are presented as entities which are similar enough not to be distinguishable from one another.

The arguments in (10) are thus presented one after another because that is the way language works, but they are all alike as members of the same set created by the author and do not differ in their importance, power of persuasion, etc. The use of the indefinite ordinals in (10) merely signifies that the arguments are numbered for easier reference but they are not ordered or ranked in any way.

The same inference is invited in a variety of other contexts exemplified below:

- (11) Spread 1 sheet of phyllo atop baking sheet. Lightly brush with butter. Layer *a* second sheet overtop, brush with butter and repeat.
- (12) Later that year, *a* federal grand jury indicts Jackson and Paradies, *a* third man and two companies on 133 counts of bribery, mail fraud and tax evasion.
- (13) The stock market scored *a* fourth day of gains for its best week since November. The Dow Jones Industrial Average rose another 54 points.

In (11) an essentially identical layer of phyllo comes on top of the first one, which makes it a second layer, in (12) a man is charged with committing the same crimes as two other individuals, so he is referred to as a third man, and in (13) three days of heady stock market gains are reported to be followed by one more, which makes it a fourth day. In all three examples the use of indefinite ordinals signifies that the indefinite referents are not substantially different from other members of the sets they belong to and in each case this supposition is explicitly confirmed, e.g. by the tip that the steps described in the recipe excerpt should be repeated in (11), by charging all the individuals referred to in (12) with the same offences and by noting in (13) that it was another day on which the stock market rose significantly.

Indefinite ordinals may, however, be equally effectively used to the same end without such additional information, e.g.:

- (14) In 1975 I was *a* widow raising *an* only son, *a* six-year-old child. In 1976, Brandon and I married. He had two children, two sons. In 1980 we adopted *a* fourth child, our daughter, Lani.

Referring to the adopted daughter with an indefinite nominal implies that she is an integral member of the same set as the other child referents, i.e. a family member on a par with the other three kids, while the use of the definite ordinal would give rise not only to ordering the children by age but also to ranking them by other characteristics, which might include their origin. Eliminating any grounds for drawing unwelcome ranking inferences, the use of the indefinite ordinal in (14) ultimately contributes thus to expressing an inclusive attitude to the adopted daughter.

Besides serving as a handy tool to avoid unwanted ranking inferences, indefinite numerals also help speakers to defocus those items they are not interested in discussing:

- (15) It is, however, *a* first step in *a* larger and long-considered strategy to topple *a* 29-year-old Supreme Court ruling that all children in the United States, regardless of their immigration status, are guaranteed *a* public education.

- (16) “Our experiment is just *a* first step toward a whole new strategy,” Kaptchuk says.

The strategy in (15) is complex and possibly requires taking many intermediate stages before it is completed, and the one in (16) is even more elusive, as it is only a goal to be reached in the future. The number of steps needed to achieve the objectives set out in both strategies and the order in which they are to be taken are then quite unlikely to be known in detail yet, which is a perfect scenario for the use of the indefinite article. As noted above, the referent of an indefinite nominal is an explicit member of a set featuring more implicit items of the same kind, which in (15) and (16) translates into a series of steps with only one of them highlighted and the rest remaining in the dark.

The use of definite ordinals would clash with this context by implying that all the steps are ordered and identifiable, while the use of indefinite ordinals lets the speaker remain vague about later developments. An essentially similar motivation underlies the usage illustrated below:

- (17) “We were expecting 40 degrees Celsius, 104 Fahrenheit and sweltering humidity,” said 2004 Olympic road gold medalist Sara Carrigan of Australia, who finished *a* distant 38th on Sunday.
- (18) For businesses with Chinese interests, perhaps *a* bigger concern is that Google, the leading search engine around the world, ranks *a* distant second in the country and reportedly described its revenue there as “immaterial” four years after launching.

Since a singular countable indefinite nominal picks out a single item from a set containing more members of the same kind, it does not really matter if the referent happens to be item number 1, as was the case in (15) and (16) above, or any other one, e.g. item number 38 in (17) and item number 2 in (18). In either scenario the result is that the remaining items in the set are not referred to and remain implicit. In (17) it is only to be expected, given the fact that cyclists who finish road races typically do so in a fast moving pack in which it is difficult for viewers to focus on more than one particular athlete, but in (18) it is more surprising, as top business performers are usually given enough prominence to be identifiable. However, the choice of the indefinite article in (18) lets the author highlight the point that in his or her opinion it is irrelevant which company did better than Google and which ones did worse. The news is that Google does not top the list, even though given its standing elsewhere in the world, it was a sure favorite to do so in China, too. The use of the definite ordinal would only specify Google’s position in the ranking, while the indefinite one lets the author focus on Google and defocus all other internet companies in the set as not newsworthy, irrespective of their position in the ranking.

Ultimately, the choice of the indefinite ordinals in (17) and (18) contributes thus to expressing a profound disappointment with the performance of either referent and that attitude is further explicated by modifying both numerals with the adjective *distant*, but the key role played by indefinite ordinals in voicing such a sentiment in both examples is best brought out by the fact that in COCA there are only four instances of definite ordinals modified by that adjective and as many as 118 indefinite ones.

However, the use indefinite ordinals may also contribute to expressing quite an opposite feeling of surprise and satisfaction, e.g.:

- (19) Squeezed into a section with standing room only, they stayed to watch Wisconsin fight back to *a* fourth quarter victory. As the game ended, *an* avalanche of students rolled onto the field.

In the first sentence Wisconsin is reported to have staged a final quarter come back, i.e. to have reversed a trend that prevailed earlier in the game, when a Wisconsin win must have looked at least unlikely. In other words, item number four in a set of basketball game quarters is said to be out of step with a tendency observable in the set members with lower numbers. For an indefinite nominal such a contrast is not a problem because it refers exclusively, i.e. picks out one set member to the exclusion of all the other ones along with the trends or relationships any such excluded set members may display, while a definite nominal could clash with a context like (19).

Since definite ordinals sort all set members in a strict order which does not admit any reversals, that simple fact may be taken to imply that the same is the case with the tendencies displayed by particular set members themselves. For example, the use of a definite ordinal in (19) could give rise to the inference that the tendency prevailing in earlier quarters extended also to quarter four because it is a member of the same sequence of monotonically ordered items. The choice of an indefinite ordinal thus gives the speaker the freedom to refer to an item independently of its potential relationships with any other set members, while the use of definite ordinals invites inferences which do not leave the speaker that much leeway.

Finally, the same is also the case whenever speakers use ordinals to designate simple fractions, e.g.:

- (20) Maybe *an* eighth of *a* mile off the main road, we found what looked to be *an* abandoned mine. I parked the van next to *a* boulder and jumped out as soon as the engine quit.

It goes without saying that every eighth of a mile is exactly the same length, which translates to a scenario in which a set has eight identical members and it does not matter in any way which one of them actually refers to the stretch of the road in (20). Any such case is thus a prime example of exclusive reference and the use of the indefinite article with singular simple fractions is only to be expected. If it is replaced with the definite one, the referent changes from a common fraction to a set member made uniquely identifiable by its position in an ordered sequence, e.g.:

- (21) In the fourth of *a* series of speeches on his administration's war on terror record, the president said he has learned the lessons of the 9/11 attacks.
 (22) He is one of eight Japanese Space Agency astronauts and the fifth of the group to fly in space.

The numeral in (21) refers to speech number 4 in a longer but strictly ordered series of presidential addresses and the numeral in (22) refers to astronaut number five in a group of eight, but neither of these referents, in contrast to (20), is a simple fraction.

In general it may be concluded that indefinite ordinals let speakers focus on one item from a set of numbered entities and refer to their pick independently of its inferrable connections with all other set members, which leads to two complementary scenarios. In the first one the referent is implied neither to be ranked with respect to the remaining set members nor to follow the trends they display, which contributes to expressing a neutral, disinterested point of view, as shown in (8) - (14) and (20). In the second scenario one referent is highlighted irrespective of its position in the sequence of numbers while the remaining ones are defocused, which contributes to expressing a point of view that plays down the relevance of the remaining potential referents, as shown in (15) - (19) and 20. In a particular context either viewpoint may be elaborated to express a more specific

attitude, as shown in (14), (18), or (19), but what is more crucial, both scenarios outlined above and the viewpoints they give rise to are well rooted in a key aspect of the meaning of the indefinite article.

REFERENCES

- BEREZOWSKI, L. 2001. *Articles and Proper Names*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- . 2009. *The Myth of the Zero Article*. London. Continuum Publishing.
- BIRNER, B., & G. WARD. 1994. Uniqueness, familiarity and the definite article in English. *Proceedings of the Meeting of the Berkeley Linguistic Society*, 93-102.
- DAVIES, MARK. 2008. *The Corpus of Contemporary American English: 450 million words, 1990-present*. Available online at <http://corpus.byu.edu/coca/>.
- DECLERCK, R. 1986. Two notes on the theory of definiteness. *Journal of Linguistics* 22(1): 25-39.
- HAWKINS, J. 1978. *Definiteness and indefiniteness. A study in reference and grammaticality prediction*. London: Croom Helm.
- . 1991. On (in)definite articles: Implicatures and (un)grammaticality prediction. *Journal of Linguistics* 27: 405 - 42.
- GUNDEL, J., N. HEDBERG, & R. ZACHARSKI. 1993. Cognitive status and the form of referring expressions in discourse. *Language* 69: 274-307.
- KADMON, N. (1990). Uniqueness. *Linguistics and Philosophy* 13: 273 – 324.

This article was first published at lacus.weebly.com.





KARL BÜHLER'S TWO-FIELD THEORY OF LANGUAGE: A COGNITIVE VIEW

HENRYK KARDELA

Maria Curie-Skłodowska University

Abstract: This paper offers a cognitive grammar perspective on Karl Bühler's two-field theory of language. It is claimed that the two planes on which Bühler proposes language operates, namely the **deictic field** and the **symbolic field**, can be reinterpreted in terms of the cognitive process of **(inter)subjectification**. Crucial in this respect is the Bühlerian claim about the detachment of utterances from the actual circumstances of speech and their placement in broader contexts of linguistic use. It is precisely this (inter)subjectification-based displaced meaning that underlies the speaker-hearer interaction, involved, among other things, in the reader's interpretation of a literary work and, generally, in man's *rapport* with the symbolic representation of culture in which they participate.

Keywords: deictic plane, symbolic plane, embodiment, disengaged cognition, subjectification, intersubjectification, the reading process, symbolic culture.

BÜHLER'S CONTRIBUTION TO LINGUISTICS can hardly be minimized. And yet it is only recently that the importance of Bühler's **origo**-based two-field theory of language for modern language research has been gaining some recognition, especially among linguists of a cognitive persuasion (cf. Diesel 2012).

Our concern here is Bühler's concept of **origo**, i.e. a system of the subjective coordinates which are used by the speaker to organize his personal, spatial and temporal structures of utterances. The **origo** represents the **deictic field**, from which the transfer of language work to the **symbolic field** takes place, whereby the speaker becomes both "the actor in the linguistic performance and an observer of his/her speech act" (Abraham 2011: xiii).

In particular, we claim that the transfer of the language work to the symbolic field can be recast in terms of (inter)subjectification, i.e. the viewpoint-based construal relationship between the conceptualizer (speaker/hearer) and the thing that is conceptualized. Before we deal with the (inter)subjectification process, which we believe operates between the deictic and symbolic fields, however, we have to briefly discuss Bühler's **Organon model** of language. The model can be

diagrammatically represented as follows (Bühler: 35; modified):¹

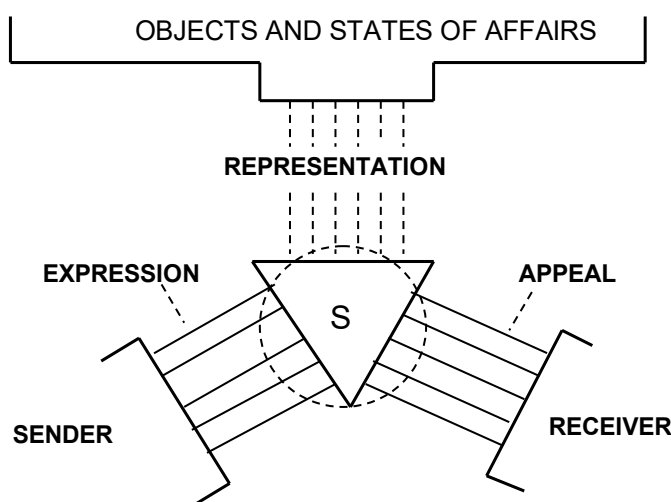


Figure 1. The *Organon* model of language

In order to refer to objects and states of affairs occurring in the world, the speaker mediates a symbolic sign (S) to the addressee. The circle represents the concrete acoustic phenomenon; the sides of the triangle S (i.e. the sign) represent the three aspects of the sign: (i) the sign as a **symbol**, in that it **represents** objects and states of affairs, (ii) the sign as a **symptom** in that it relates to the sender, whose inner states it **expresses**, and (iii) the sign as a **signal**, in that it **appeals** to the hearer. The resulting representation of objects and states of affairs involves the two planes just mentioned: the deictic field and the symbolic field.

Bühler defines the deictic field as “the system of subjective orientation on the point *here-now-I*,” assumed by the sender and the receiver, “which is the basis on which they understand the gestures and directive clues of ocular demonstration [...]” (p. 169).

Clearly, in a communicative situation, the sender and the receiver resort not only to “gestures and directive clues of ocular demonstration;” they use naming words that, as Bühler puts it, “stand for linguistic symbols of objects.” The symbolic field of language, Bühler declares, helps arrange those symbols in that it “facilitate[s] a more general and more precise understanding of the relationship between the syntactic and the lexical factors of language.” (p. 169)

Bühler distinguishes three types of deixis: deixis based on **ocular demonstration**, imagination-oriented deixis and the **anaphoric use** of deictic words.²

¹ All citations attributed to Bühler refer to the 2011 re-issue of his 1934 opus.

² An illustration of the deixis based on *ocular demonstration* may be seen in a phrase such as *that hat over there*. An example of imagination-oriented deixis, where the speaker and the hearer are moved to imagined space, i.e., to “the realm of here and there of [their] memory” (p. 142), is a sentence such as *And imagine—he was just walking behind you!*. Finally, an *anaphoric use* of deictic, which combines the pointing and naming function, can be exemplified by the word *hence* (lit. “from here”), which is already partly “removed from the particular deictic plane:” *They chose to ignore my advice, hence they are in trouble now*.

Bühler assigns a special status to anaphoric deixis. Because anaphora combines both pointing and naming and because it is a syntactic phenomenon, it is held to be situated between the deictic field and the symbolic field of language. Indeed, the function of syntax, Bühler notes, is “the removal of the language work from the province of the specific deictic clues [...]” (190). When this happens, “[...] a new anchoring takes place; [...] the new fixation takes place in the symbolic field of language” (419).

In this paper an attempt will be made to show that cognitive linguistics offers a principled account of the way utterances become “liberated from the circumstances of speech.” In order to do so, we have to briefly discuss the notion of embodiment and so-called **disengaged cognition**.³

1. EMBODIMENT, DISENGAGED COGNITION, AND SUBJECTIFICATION. Embodiment has been described by Langacker (2008:524-25) as follows:

[...] the world we construct is grounded in our experience as creatures with bodies who interact with their surroundings through physical processes involving sensory and motor activity. This is known in cognitive linguistics as embodiment. But [...] our mental life transcends the limits of immediate bodily experience. Various cognitive processes give rise to mental structures, at successive levels of organization, whose connection with such experience is progressively more remote. Not only do these structures allow us to cope with the real world more efficiently, but also they define—and vastly expand—what constitutes it. From our standpoint, the world we inhabit and engage has not just physical but also social, cultural, and intellectual dimensions. Once they are cognitively established, we can operate in these realms in largely autonomous fashion.

The “increasing remoteness” of mental structures from bodily experience mentioned by Langacker are a manifestation of the so-called **disengaged cognition** which underlies “social, cultural, and intellectual dimensions.” Whereas in a case of engaged cognition, the person, through the sensory organs (the body), interact directly with the world, in the case of disengaged cognition, there is no interactive experience between the body and the world and the processing takes place without the body’s direct engagement in the interaction.

Now, one of the basic cognitive processes facilitating the Bühlerian “liberation of utterances from the circumstances of speech” could be **subjectification** and, especially, **extreme subjectification** in Langacker’s sense. Subjectification can be defined as the “gradual replacement of the *objective viewing arrangement*—OVA by the *egocentric viewing arrangement*—EVA.” (cf. Langacker 1999:298). The subjectification process is shown in **Fig. 2**. (cf. Langacker 1999:298, modified):

³ It is important to state what Langacker 1999 is not about. This paper does not address, no doubt disappointingly, a number of issues that are relevant to the problem under discussion, including the way symbols might have developed. Nor does it make any reference to (a number of) theories of mind (TOM) dealing with symbols. The paper says nothing about the theory of human evolution involving the development of language, human cognitive and social functions, passing over the **intentionality thesis** as advanced, for instance, by Robin Dunbar (cf. Dunbar 2004), according to whom humans, in contrast to other primates (apes) “stepped back mentally”, as it were, from their immediate surroundings, to ponder over the (displaced) situations they and others might find themselves in. The aim of this paper is much more modest: we wish to account, in purely theoretical terms, i.e. in terms of the (inter)subjectification process, for the Bühlerian liberation of the language work from “the province of deictic clues.”

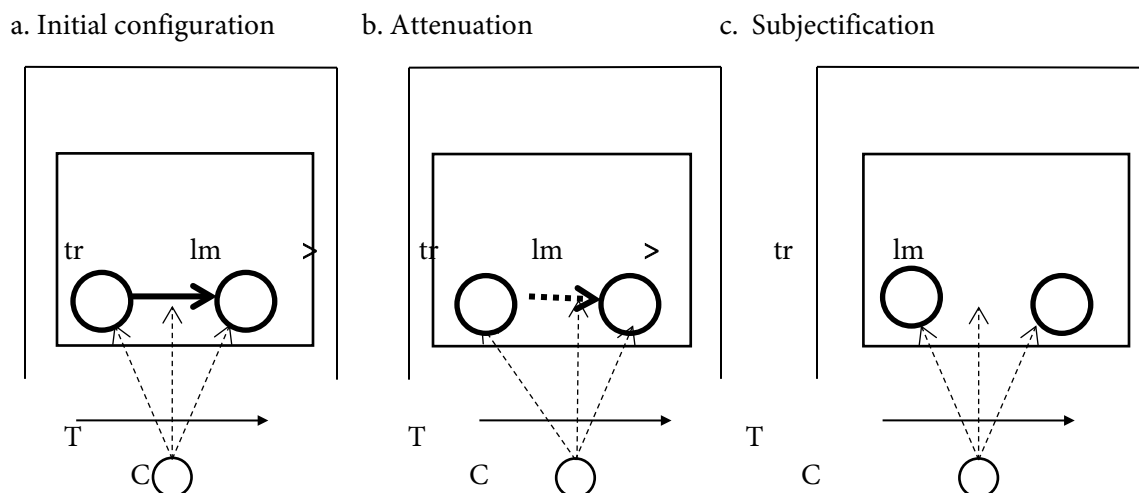


Figure 2. *Subjectification*

In (a) we are dealing with the OVA configuration: the bold arrow symbolizes the objective relation holding between the trajector, which can be an agent or an instrument, and the landmark, which can be another entity such as, for example, a patient. C is the conceptualizer, who is off-stage and who mentally scans the relation between the tr and lm. Broken arrows symbolize the process of scanning which takes place in so-called processing time (T), i.e. the time through which the given conceptualization develops. The broken heavy arrow in (b) symbolises the attenuation of the OVA relation; the conceptualizer is still performing the scanning, but the relation between tr and lm is motivated to a lesser extent here. The objectively existing motivation between lm and tr finally disappears in (c), where tr and lm are linked by the subjective relation, established now by the conceptualizer's mental operations alone. By way of illustration consider the following examples:

- (1) a. The balloon rises to three thousand feet and they turn down the flame.
- b. The cliff rises two hundred feet above the lake.

(1a) is an example of the OVA configuration, whereas the sentence in (1b) represents the EVA relationship. In (1a) the movement is real: the conceptualizer is following the movement of the balloon rising. In (1b) the movement is virtual: it is not the cliff that is moving up high, but rather the conceptualizer is “moving mentally” along the ridges of the cliff. In Langacker's theory, mental (or virtual) movement is represented by the movement of the trajector (cf. Langacker 2000:300; modified):

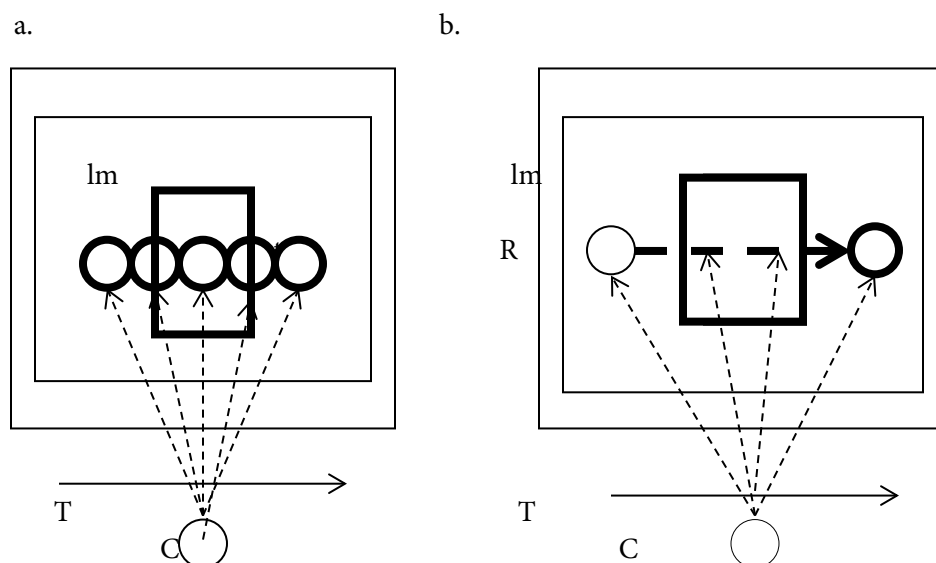


Figure 3. *Subjectification as trajector movement*

(a) and (b) represent the subjectification process from the point of view of the mental scanning performed by the conceptualizer. Whereas in (a) the conceptualizer traces the physical motion of the plane (trajector); in (b), C follows—subjectively—the same path as in (a), locating the trajector with respect to a certain reference point R.

The process of subjectification, leading to the loss of an objective motivation between tr and Im, can assume even more extreme form—that of *extreme subjectification*. Extreme subjectification is defined by Langacker as a situation in which “a speaker [...] can carry out [conceptualizing activities] autonomously, without being driven by immediate observation of the process happening ‘out there’” (Langacker 2003: 15) and in which “[N]ot pertaining to external developments, but residing solely in the conceptualizer’s mental activity, the temporal unfolding of the process is construed with extreme subjectivity” (16). Thus consider the following two sentences (Langacker 2003: 22):

- (2)[12] a. My mother will arrive next week.
 b. My mother arrives next week.

As Langacker notes (p. 22), (2a[12a]) “is a direct description of an actual event. It presupposes the canonical viewing arrangement in which the speaker is observing and describing what happens.” The sentence in (2b[12b]) is different. According to Langacker (p. 22), this example does not describe an actual event, but rather a virtual one. In Langacker’s parlance, “the profiled process is not the arrival per se, but rather its representation on a virtual schedule.” Indeed, observe that in this case, “the complete liberation takes place of the utterance from the circumstances of speech:” the present tense form used to denote the future activity completely detaches this activity from the **origo** (here-now-I).

From the analysis of subjectification developed thus far one might get a (false) impression that the conceptualizer is just a person who does the speaking without listening. This is not the case, however, as, for Langacker, the conceptualizer has a dual nature, that of the speaker and of the hearer. This duality can be captured if we assume that the speaker and the hearer engage in the so-

called mind-reading process, which plays a crucial role in the management of contextual knowledge required for a proper interpretation of utterances (cf. Langacker 2007:183). In particular, when engaged in verbal interaction with the addressee, the speaker establishes with the latter the common interpretational basis of what is being said, including the Current Discourse Space (CDS), from which all expressions are abstracted. The CDS can be presented as follows (Langacker 2008:466; modified):

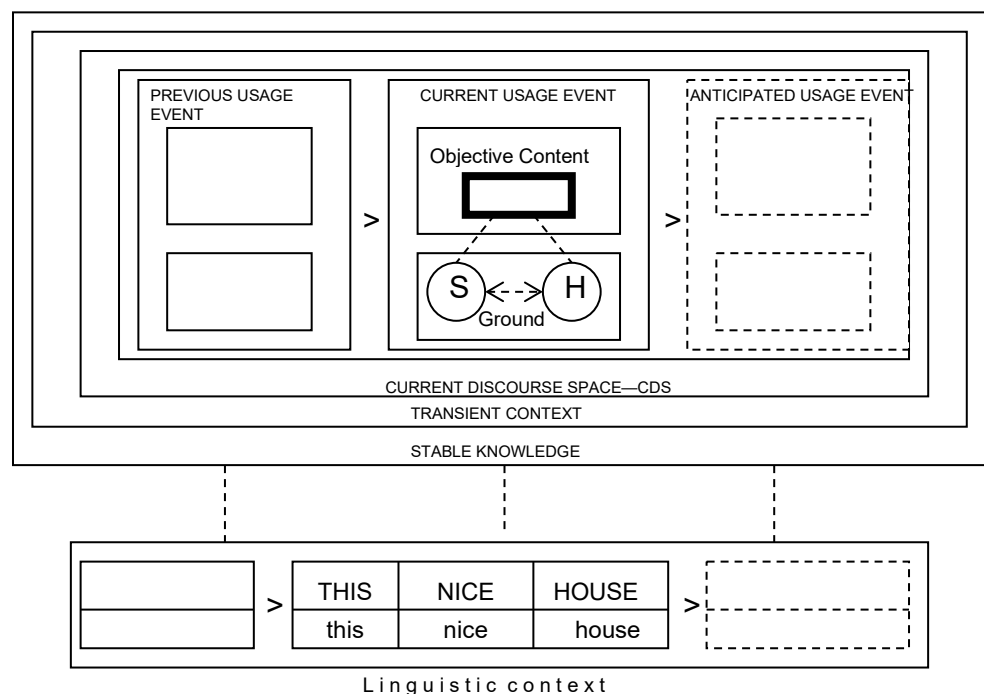


Figure 4. *The Current Discourse Space*

The diagram represents the usage event involved in the verbal interaction between S and H (cf. Langacker 2008:466); the upper box symbolizes the common interpretational basis, including the CDS (upper box in the diagram) and the “negotiated” meaning of a linguistic expression (here: *the nice house*; lower box). The CDS consists of three basic elements: the *current usage event*, the *previous usage event*, and a usage event that can be *anticipated*. This arrangement holds at all levels of conceptual organization, including all linguistic levels. Thus, according to Langacker, expressions such as *thus*, *therefore*, *this being the case*, etc. point to the presence of a previous usage event, whereas expressions such as, say, *if*, *when*, etc., because they induce expectations, are to be taken to signal the existence of anticipated usage events. The current usage event consists of so-called objective content (OC), i.e. the situation or a thing conceptualized that is communicated between the speaker (S) and the hearer (H). S and H form what is called the ground, i.e. persons and circumstances accompanying the production and understanding of utterances.

Now, if both the author and the reader are held to be involved in the reading process, then the question arises how to incorporate this observation into a viable cognitive theory of text-reading. We can do it by appealing to the already mentioned concept of mind-reading as envisioned by Langacker (2007:183; modified).

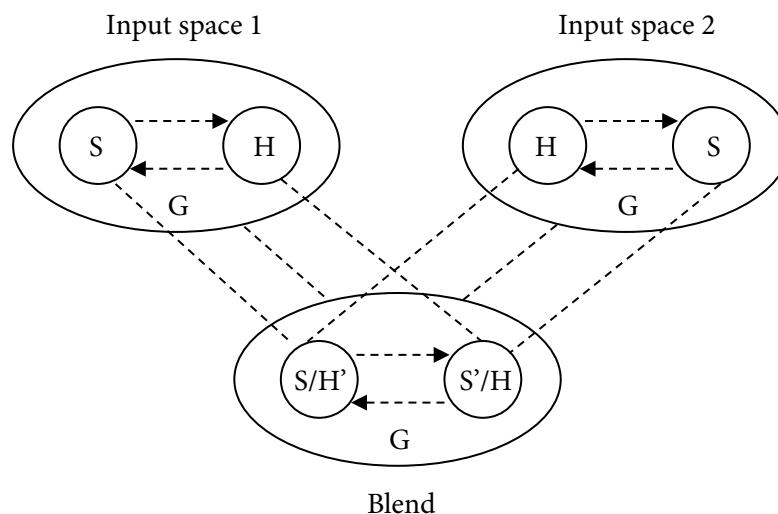


Figure 5. *The mind-reading process: A conceptual blending analysis*

S symbolizes speaker, H stands for hearer and G for the ground. In the case of the discourse participants' mind integration, a role switch of speaker and hearer takes place. In **Figure 1**, two *speech events*, taking the form of mental spaces, are represented. In one speech event, the speaker (S) addresses the hearer (H); in the other speech event, it is the hearer that addresses the speaker. The blend, using Langacker's parlance, represents the canonical speech event scenario, where the roles of the discourse participants overlap: the current speaker (S) is also the potential addressee (H'), while the current addressee (H) is also the potential speaker (S').

In what follows, we shall attempt, using the theory of CDS, to account for the process of reading, which we believe involves (inter)subjectification and thus "liberates the utterances from the circumstances of speech." In our account of the subjectification-based reading process we shall draw on Kędra-Kardela (2010).

2. READING AS SUBJECTIFICATION AND INTERSUBJECTIFICATION. The theory of reading proposed in Kędra-Kardela is based on the idea that the text reading strategy involves the process of trajector movement (cf. Fig. 3). The movement establishes—through the vantage point R—the mental link between tr and lm and thus accounts for a reader's assemblage of the various portions of information from the text. On this account, during the process of reading, a reader subjectifies the text (i.e., gets mentally inside it), and effectively produces a new text. The literary text is thus treated as a kind of scaffolding that disappears after the new, virtual text is produced by the reader.

For our analysis of the subjectification-based reading process to go through, we have to make two assumptions about the world of fiction (cf. Kędra-Kardela 2010:138):

- (i) any global world of fiction involves several planes: the actual plane and one or more virtual planes which represent departures from the actual plane in such a way that a "plain" account of a story event becomes structurally more and more complex owing to various literary strategies used (such as, for instance, focalization, shifts in time, different types of speech representation used, narrator's (un)reliability, etc.;
- (ii) the virtual planes are linked with the actual plane (or better: virtual planes) via

subjectification in such a way that the presence of the reader (or his “interpretational effort”) in a literary work is becoming more and more articulate as the virtual planes are being gradually “removed” from the actual plane.

The process of reading can now be described as follows. Acting in accordance with his sense of *closure* to produce a final, closed text, the reader, in his attempt to (re)construct the fictional world of a literary work, puts forward hypotheses concerning this world, testing them against **cognitive narrative frames** (CNFs)—the familiar models of reality known to him. It is precisely by recognizing the familiar models of reality and putting forward and testing hypotheses concerning the world of fiction against these models that a new, virtual text is produced.

It should be stressed, however, that the recognition of the familiar models, does not mean that the text will be closed for good, that its interpretation leading to the creation of new virtual texts will ever stop. It never will; for, although recognizing familiar elements in the text, the reader will make an attempt to close it, at the same time, by providing new interpretations, he will effectively be engaged in expanding it.

Now, it is assumed in Kędra-Kardela that each CNF is accompanied by a set of parameters which can be taken as an indication of the degree of a text's virtuality. Some parameters can be taken to relate to what has been termed as the *fabula*, others, to the *story*, and still others, to the *fictional narrative*. If so, the text's virtuality can be viewed as a function of the reader's subjective involvement in the reconstruction and expansion of the text. Roughly, the more possibilities of expansions under a particular CNF a text offers (thus requiring a greater mental effort on the reader's part to find all relevant connections between the elements of the text to close it), the more virtual the text should be judged to be.

Ultimately, the subjectification-based cognitive narratological model as proposed in Kędra-Kardela looks as follows p. 143; modified):

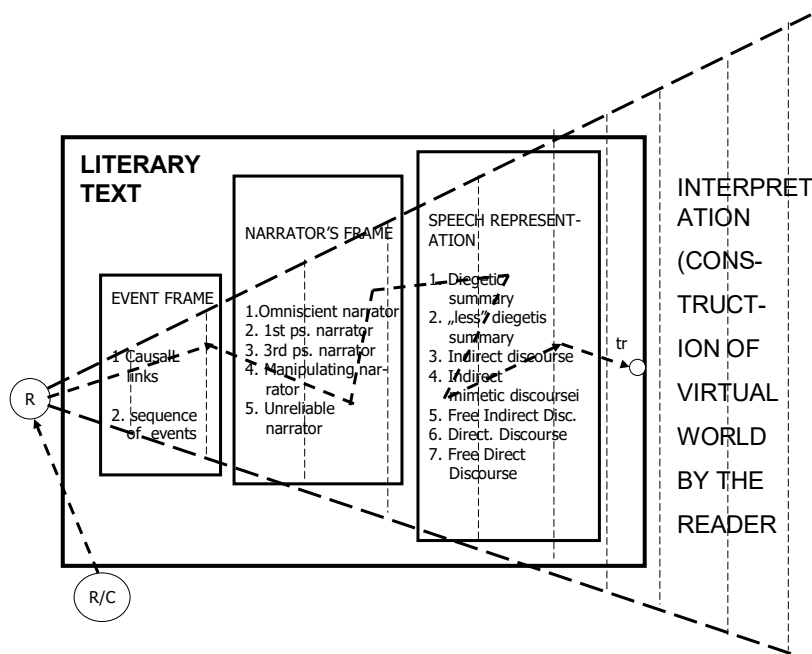


Figure 6. Subjectification in the literary text

R/C symbolizes the reader/conceptualizer who, in the process of subjectification, assumes the vantage point of R (which is equaled with the ground). The subjective relation is established via the abstract motion of the trajector which moves across the text's structure, scanning and comparing the text's composition with the CNFs evoked by the text's elements (here with the event frame, the narrator's frame, and the speech representation frame; cf. Fig. 3). The widening sides of the angle symbolize the openness of the text. The broken arrow linking R/C with R stands for the interactive relation between the reader and the fictional narrative. The distance between R/C and R is subject to variation and depends on the reader's involvement in the text: the greater the degree of his involvement, the shorter the distance between R and R/C. The shorter the distance, in turn, the greater the text's subjectivity, hence its virtuality. Because CNFs function in accordance with the closure principle, each CNF provides necessary safeguards against any unmotivated text expansion.

The subjectification-based analysis of the reading process just presented must be modified if, as suggested by some narratologists, the author is to be taken into account (cf. Claassen 2012). In this case, text reading should be analyzed not only in terms of the reader's subjectification of the text, but also, or perhaps, more importantly, in terms of intersubjectivity and the *intersubjectification* process involving both the reader and the author.

The idea of intersubjectivity has been formulated by Zlatev et al. 2011: 3) as follows:⁴

- (i) Human beings are primordially connected in their subjectivity, rather than functioning as monads who need to infer that others are also endowed with experiences and mentalities that are similar to their own.
- (ii) The sharing of experiences is not only, not even primarily, on a cognitive level, but also (and more basically) on the level of affect, perceptual processes and conative (action-oriented) engagements.
- (iii) Such sharing and understanding is based on embodied interaction (e.g. empathetic perception, imitation, gesture and practical collaboration)
- (iv) Crucial cognitive capacities are initially social and interactional and are only later understood in private or representational terms.

The idea of intersubjectivity has already been applied in literary research, among others, by Rembowska-Pluciennik (2012: 107, henceforth R-P). R-P defines intersubjectivity as "the ability to think about the reasoning of others as well as the ability to mentally represent the current, recollected as well as a fictitious state of someone else's mind." Further R-P states, "thinking about reasoning of others" requires what is referred to in cognitive psychology and philosophy as *mind-reading*, i.e. the "human ability to ascribe to others the mental states relating to their knowledge of the world, the causality of their actions." (107; trans. H.K.). Importantly, as R-P notes, because intersubjectivity involves the "simulation of behavioral patterns" which enables "intersensory communication, empathy and identification with others" (102), it must have a direct bearing on the process of reading. Indeed, it is owing to the intrinsic ability of literature to simulate behavioral patterns that the author and the narrator can create a literary character and that the reader "can construct [the latter's] mental representation" (106).

Now, if *both* the author *and* the reader are involved in the reading process, then the question is how to incorporate this observation into a viable cognitive theory of text-reading. We can do this, it seems, by combining the subjectification-based theory of text reading with Langacker's theory of CDS involving the concept of mind-reading:

⁴ For a detailed discussion of (inter)subjectivity, see also Traugott 1995, Traugott & Dasher 2002, Verhagen 2005).

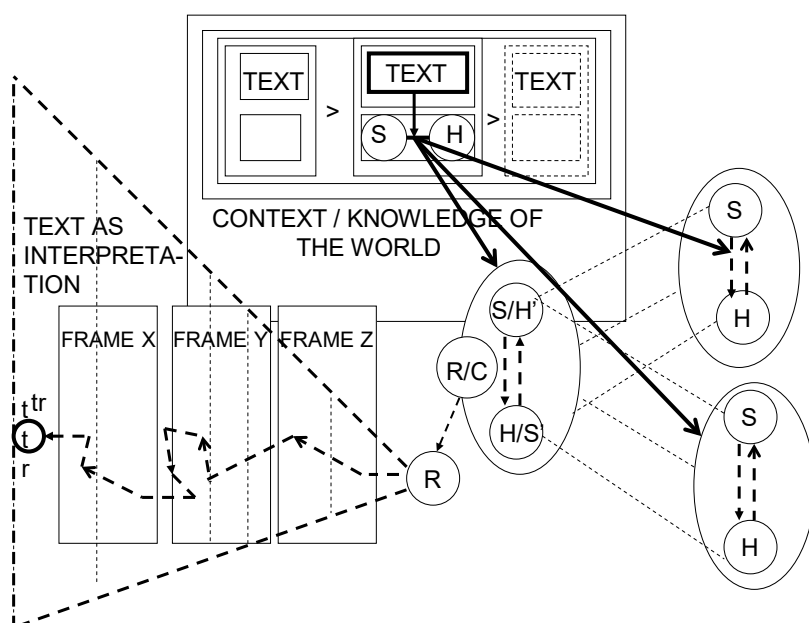


Figure 7. Intersubjectification in the literary text

In **Figure 7**, TEXT is “an objective content” (cf. Fig. 4), which undergoes the process of “intersubjectification”. During the reading process, proper CNFs are recruited by the reader (R/C) and the “author-reader mind integration” takes place (the oval structures).⁵ As a result, a new, virtual text emerges—TEXT-AS-INTERPRETATION.

3. IN LIEU OF CONCLUSION: INTERSUBJECTIVITY AND CULTURE. We have seen how the relationship between the Bühlerian deictic and symbolic fields can be recast in terms of Langacker’s theory of (inter)subjectification involving the concept of mind-reading. If, as we have been claiming throughout, the process of (inter)subjectification liberates the language work from the circumstances of speech, then, in the case of the text-reading process, this “liberation” (which leads to the emergence of new symbolic texts, is almost complete. It is almost complete, but not entirely so. The complete liberation, we would now like to suggest, takes place in the case of the intersubjectification-based *rapport* between man and culture.

This holds because the *rapport* between man and culture, just like the reader’s response to the literary work, is intimately connected with man’s “guided involvement”. Indeed, it will be recalled that in the case of the reader-author negotiation over the interpretation of a literary work, the reader, drawing on his knowledge of the world, on the literary convention and by his assumption of the

⁵ S symbolizes here *speaker*, H stands for *hearer* and G for the ground. In the case of the discourse participants’ mind integration, a role switch of speaker and hearer takes place. That is, in one speech event, the speaker (S) addresses the hearer (H); in the other speech event, it is the hearer that addresses the speaker. The blend, using Langacker’s parlance, represents the *canonical speech event scenario*, where the roles of the discourse participants overlap: the current speaker (S) is also the potential addressee (H’), while the current addressee (H) is also the potential speaker (S’).

viewpoint of the narrator or the characters, constructs his own (symbolic) representation of the fictional world. Particularly pertinent here appears to be Pluciennik's (2002: 117-118) assertion that (trans. H.K.)

intersubjectivity in language means the existence of traces, chaotic fragments, remnants of subjecthood. That is why some linguistic forms can be thought of as being more *engaging* (italics mine) than other forms. Thus a simple rhetorical figure such as, say, the historical present can play an important role in activating identificational processes; from this figure more complex narratorial relations as seen from the character's point of view can be derived. [...] The motivation for this kind of mechanism can be found in empathy as well as in the processes involved in the functioning of human memory. [...] the present tense forms make the situation "more dramatic", "dragging" the reader into the text's world. At the same time, on the basis of the principles of conceptual integration, the present tense form of a narration becomes a time span during which the actual reading takes place. That is why the reader can get involved more readily into the world of fiction created by the text.

There is no doubt that in the case of the man-culture relationship, the existence of the same engaging mechanism that takes place in the text-reading process ought to be posited as well. Indeed, as observed by Tomasello (2002: 213), the cultural symbolic space surrounding man forces us into interactive behavior:

Children's mastery of one very special cultural artifact—language—has transforming effects on their cognition. Language does not create new cognitive processes out of nothing, of course, but when children interact with other persons intersubjectively and adopt their communicative conventions, this social process creates a new form of cognitive representation—one that has no counterpart in other animal species. The novelty is that linguistic symbols are both intersubjective and perspectival. The perspectival nature of linguistic symbols means that as children learn to use words and linguistic constructions in the manner of adults, they come to see that the exact same phenomenon may be construed in many different ways for different communicative purposes depending on many factors in the communicative context.

The "construal of the same phenomenon in many different ways" gives rise to the formation of linguistic representations, which as Tomasello observes (13)

are free of the immediate perceptual context not just in the sense that *with these symbols children can communicate about things removed in space and time*, but also in the sense that even the exact same perceptually present entity can be linguistically symbolized in innumerable different ways (italics added—H.K.).

The perspectival nature of symbols shows perhaps most clearly in the "outsider's perspective" children take on their "acts of metacognition, self-regulation and representational redescription," which, as Tomasello asserts, leads to the emergence of "more systematic cognitive structures in dialogical formats" (214). According to Tomasello,

[...] the uniquely human forms of thinking—for example, those in which I am engaged as I formulate this argument and attempt to anticipate the dialogic responses it will elicit from other thinkers (and perhaps my response to those responses)—do not just depend on, but in fact

derive from, perhaps are even constituted by, the interactive discourse that takes place through the medium of intersubjective and perspectival linguistic symbols, constructions, and discourse patterns (215).

Karl Bühler could hardly disagree with this statement. It is time now to take a fresh look at Bühler's *oeuvre* and attempt to assess the implications of his theory for modern linguistic research. There is little doubt that the viewpoint-based solutions offered by his two-field theory of language definitely deserve serious consideration.⁶

REFERENCES

- ABRAHAM, WERNER. 2011. Preface. In *Theory of language. The representational function of language*. xiii-xlvii. Amsterdam: Benjamins.
- BÜHLER, KARL. 1934/2011. Introduction. In *Theory of language. The representational function of language*. Amsterdam: John Benjamins.
- CLAASSEN, EEFJE. 2012. *Author representations in literary reading*. Amsterdam: Benjamins.
- DIESEL, HOLGER. 2012. Bühler's two-field theory of pointing and naming and the deictic origins of grammatical morphemes. In K. Davidse, T. Breban, L. Brems, T. Mortelmans (eds.) *Grammaticalization and language change*. 37-50. Amsterdam: Benjamins.
- DUNBAR, ROBIN. 2004. *The human story. A new history of mankind's evolution*. London: Faber and Faber.
- KĘDRA-KARDELA, ANNA. 2010. *Reading as interpretation. Towards a narrative theory of fictional world construction*. Lublin: Wydawnictwo UMCS.
- LANGACKER, RONALD. 1999a. *Grammar and conceptualization*. Berlin: Mouton de Gruyter.
- . 2003. Extreme subjectification: English tenses and modals. In *Motivation in language: Studies in honour of Günther Radden*, ed. by H. Cuyckens, T. Berg, R. Dirven, and K-U Panther. 3-26. Amsterdam: Benjamins.
- . 2007. Constructing the meanings of personal pronouns. In *Aspects of meaning construction*, ed. by G. Radden, K-M Koepcke, T. Berg, and P. Siemund 171-87. Amsterdam: Benjamins.
- . 2008. *Cognitive grammar. A basic introduction*. Oxford: Oxford University Press.
- PŁUCIENNIK, JAROSŁAW. 2002. *Literackie identyfikacje i oddźwięki. Poetyka i empatia*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- REMBOWSKA-PŁUCIENNIK, MAGDALENA. 2012. *Poetyka intersubiektywności. Kognitywistyczna teoria narracji a proza XX wieku*. Toruń: Wydawnictwo UMK.
- TOMASELLO, MICHAEL. 2002. *The cultural origins of human cognition*. Cambridge, MA: The Harvard University Press.
- TRAUGOTT, ELIZABETH. 1995. Subjectification in grammaticalization. In *Subjectivity and subjectivisation*, ed. by D. Stein and S. Wright, 31-54. Cambridge: Cambridge University Press.

⁶ See Diesel (2012) for discussion of the implications of Bühler's two field theory for the study of grammaticalization.

- , & RICHARD DASHER. 2002. *Regularity in semantic change*. Cambridge: Cambridge University Press.
- VERHAGEN, ARIE. 2005. *Constructions of intersubjectivity. Discourse, syntax, and cognition*. Oxford: Oxford University Press.
- ZLATEV, JORDAN, TIMOTHY RACINE, CHRIS SINHA, ESA ITKONEN. 2008. *The shared mind. Perspectives on intersubjectivity*. Amsterdam: Benjamins.

This article was first published at lacus.weebly.com.

